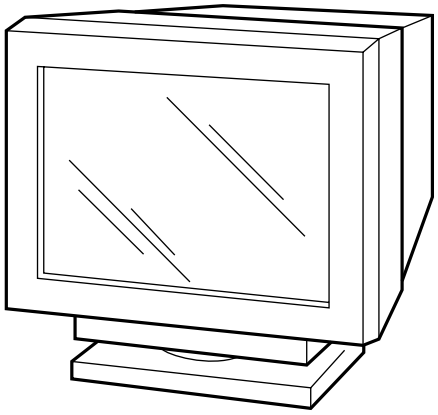
GDM-F400/F400T9

SERVICE MANUAL

GDM-F400
US Model
Canadian Model
Chassis No. SCC-L03D-A

GDM-F400T9
AEP Model
Chassis No. SCC-L03D-A



N3P CHASSIS

SPECIFICATIONS

CRT	0.22 mm aperture grille pitch 19 inches measured diagonally 90-degree deflection FD Trinitron
Viewable image size	Approx. 364.8 × 273.6 mm (w/h) (14 3/8 × 10 7/8 inches) 18.0" viewing image
Resolution	Horizontal: Max. 1600 dots Vertical: Max. 1200 lines
Standard image area	Approx. 352 × 264 mm (w/h) (13 7/8 × 10 1/2 inches) or Approx. 330 × 264 mm (w/h) (13 × 10 1/2 inches)
Deflection frequency*	Horizontal: 30 to 107 kHz Vertical: 48 to 160 Hz
AC input voltage/current	100 to 240 V, 50 – 60 Hz, 1.8 – 1.0 A
Power consumption	Max. 140 W (with no USB devices connected)
Dimensions	Approx. 444 × 476 × 455 mm (w/h/d) (17 1/2 × 18 3/4 × 18 inches)
Mass	Approx. 28 kg (61 lb 12 oz)
Plug and Play	DDC1/DDC2B/DDC2Bi/DDC2B+

* Recommended horizontal and vertical timing condition
- Horizontal sync width duty should be more than 4.8% of total horizontal time or 0.8 µs, whichever is larger.
- Horizontal blanking width should be more than 2.5 µsec.
- Vertical blanking width should be more than 450 µsec.

Design and specifications are subject to change without notice.

TRINITRON® COLOR GRAPHIC DISPLAY

MICROFILM

SONY®

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:

1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and bridges.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Check that all control knobs, shields, covers, ground straps, and mounting hardware have been replaced. Be absolutely certain that you have replaced all the insulators.
4. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
5. Look for parts which, though functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replacement.
6. Check the line cords for cracks and abrasion. Recommend the replacement of any such line cord to the customer.
7. Check the B+ and HV to see if they are specified values. Make sure your instruments are accurate; be suspicious of your HV meter if sets always have low HV.
8. Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC Leakage. Check leakage as described below.

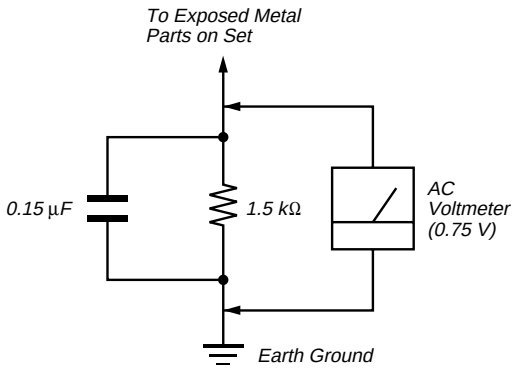
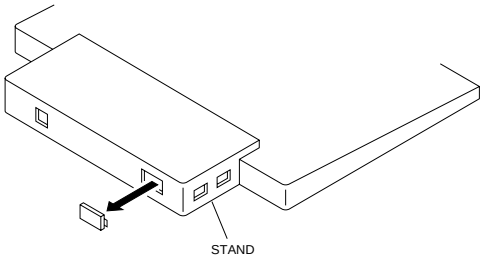


Fig. A. Using an AC voltmeter to check AC leakage.

CAUTION ON DAS (ECS) CONNECTOR

- The connector for DAS (ECS) adjustment is provided inside the cover shown below. Be careful with an electrical shock when connecting the connector with the power supplied. Also, return the removed cover to the home position.



LEAKAGE TEST

The AC leakage from any exposed metal part to earth ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers).

Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOMs that are suitable. Nearly all battery operated digital multimeters that have a 2 V AC range are suitable. (See Fig. A)

WARNING!!

NEVER TURN ON THE POWER IN A CONDITION IN WHICH THE DEGAUSS COIL HAS BEEN REMOVED.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL FOR SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY. CIRCUIT ADJUSTMENTS THAT ARE CRITICAL FOR SAFE OPERATION ARE IDENTIFIED IN THIS MANUAL. FOLLOW THESE PROCEDURES WHENEVER CRITICAL COMPONENTS ARE REPLACED OR IMPROPER OPERATION IS SUSPECTED.

AVERTISSEMENT!!

NE JAMAIS METTRE SOUS TENSION QUAND LA BOBINE DE DEMAGNETISATION EST ENLEVÉE.

ATTENTION AUX COMPOSANTS RELATIFS À LA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE TRAME ET UNE MARQUE ⚠ SONT CRITIQUES POUR LA SÉCURITÉ. NE LES REMPLACER QUE PAR UNE PIÈCE PORTANT LE NUMÉRO SPECIFIÉ. LES RÉGLAGES DE CIRCUIT DONT L'IMPORTANCE EST CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT SONT IDENTIFIÉS DANS LE PRÉSENT MANUEL. SUIVRE CES PROCÉDURES LORS DE CHAQUE REMPLACEMENT DE COMPOSANTS CRITIQUES, OU LORSQU'UN MAUVAIS FONCTIONNE-MENT EST SUSPECTÉ.

POWER SAVING FUNCTION

This monitor meets the power-saving guidelines set by VESA, ENERGY STAR, and NUTEK. If the monitor is connected to a computer or video graphics board that is DPMS (Display Power Management Signaling) compliant, the monitor will automatically reduce power consumption in three stages as shown below.

Power mode	Power consumption*	⏻ (power) indicator
normal operation	≤ 140 W (GDM-F400)	green
1 standby	≤ 80 W (GDM-F400)	green and orange alternate
2 suspend	≤ 10 W (GDM-F400)	green and orange alternate
3 active off**	≤ 3 W (GDM-F400)	orange
power off	0 W	off

* Figures reflect power consumption when no USB compatible peripherals are connected to the monitor.

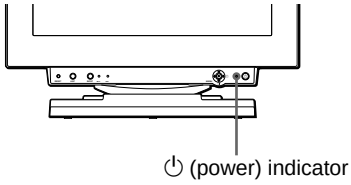
** When your computer enters the "active off" mode, the input signal is cut and NO INPUT SIGNAL appears on the screen. After the time set in "Changing the power saving delay time." (page 1-6) has elapsed, the monitor enters the power saving mode.

To change the power saving delay time

See page 1-6.

DIAGNOSIS

This monitor is equipped with a self-diagnosis function. If there is a problem with your monitor or computer(s), the screen will go blank and the ⏻ (power) indicator will either light up green or flash orange. If the ⏻ (power) indicator is lit in orange, the computer is in power saving mode. Try pressing any key on the keyboard.

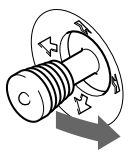


If the ⏻ (power) indicator is green

1 Remove any plugs from the video input 1 and 2 connectors, or turn off the connected computer(s).

2 Press the ⏻ (power) button to turn the monitor off and on.

3 Move the joystick to the right for 2 seconds before the monitor enters power saving mode.



If all four color bars appear (white, red, green, blue), the monitor is working properly. Reconnect the video input cables and check the condition of your computer(s).

If the color bars do not appear, there is a potential monitor failure. Inform your authorized Sony dealer of the monitor's condition.

If the ⏻ (power) indicator is flashing orange

Press the ⏻ (power) button to turn the monitor off and on.

If the ⏻ (power) indicator lights up green, the monitor is working properly.

If the ⏻ (power) indicator is still flashing, there is a potential monitor failure. Count the number of seconds between orange flashes of the ⏻ (power) indicator and inform your authorized Sony dealer of the monitor's condition. Be sure to note the model name and serial number of your monitor. Also note the make and model of your computer and video board.

TIMING SPECIFICATION

MODE MODE AT PRODUCTION	TEST MODE MODE 1	MODE 2	MODE 3	MODE 4
RESOLUTION	738 X 414	1600 X 1200	1600 X 1200	1280 X 1024
CLOCK	28.322 MHz	229.5 MHz	202.5 MHz	157.5 MHz
HORIZONTAL				
H-FREQ	31.469 kHz	106.25 kHz	93.75 kHz	91.146 kHz
	usec	usec	usec	usec
H. TOTAL	31.777	9.412	10.667	10.971
H. BLK	5.72	2.44	2.765	2.844
H. FP	0.318	0.279	0.316	0.406
H. SYNC	3.813	0.837	0.948	1.016
H. BP	1.589	1.325	1.501	1.422
H. ACTIV	26.057	6.972	7.901	8.127
– VERTICAL –				
V. FREQ(HZ)	70.087 Hz	85 Hz	75 Hz	85.024 Hz
	lines	lines	lines	lines
V. TOTAL	449	1250	1250	1072
V. BLK	35	50	50	48
V. FP	5	1	1	1
V. SYNC	2	3	3	3
V. BP	28	46	46	44
V. ACTIV	414	1200	1200	1024
– SYNC –				
INT(G)	NO	NO	NO	NO
EXT(H/V)/POLARITY	YES N/P	YES P/P	YES P/P	YES P/P
EXT(CS) /POLARITY	NO	NO	NO	NO
INT/NON INT	NON INT	NON INT	NON INT	NON INT
SIZE	352 X 264 mm	352 X 264 mm	352 X 264 mm	330 X 264 mm

TABLE OF CONTENTS

Section	Title	Page
1.	**GENERAL**	1-1
2.	**DISASSEMBLY**	
2-1.	Cabinet Removal	2-1
2-2.	A Board Removal	2-1
2-3.	AC Inlet and Rear Shield Removal	2-2
2-4.	D Board Removal	2-2
2-5.	Service Position	2-3
2-6.	US Board Removal	2-3
2-7.	Bezel and H Board Removal	2-4
2-8.	Picture Tube Removal	2-5
2-9.	Harness Location	2-6
3.	**SAFETY RELATED ADJUSTMENT**	3-1
4.	**ADJUSTMENTS**	4-1
5.	**DIAGRAMS**	
5-1.	Block Diagrams	5-1
5-2.	Frame Shcematic Diagram	5-5
5-3.	Circuit Boards Location	5-7
5-4.	Schematic Diagrams and Printed Wiring Boards	5-8
(1)	Schematic Diagrams of US Board	5-9
(2)	Schematic Diagrams of A Board	5-11
(3)	Schematic Diagram of H Board	5-14
(4)	Schematic Diagram of D Board	5-15
5-5.	Semiconductors	5-29
6.	**EXPLODED VIEWS**	
6-1.	Chassis	6-1
6-2.	Picture Tube	6-2
6-3.	Packing Materials	6-3
7.	**ELECTRICAL PARTS LIST**	7-1

The operating instructions mentioned here are partial abstracts from the Operating Instruction Manual. The page numbers of the Operating Instruction Manual remain as in the manual.

SECTION 1
GENERAL

Precautions

Warning on power connections

- Use the supplied power cord. If you use a different power cord, be sure that it is compatible with your local power supply.
  For the customers in the U.S.A.
  If you do not use the appropriate cord, this monitor will not conform to mandatory FCC standards.

Example of plug types

for 100 to 120 V AC for 200 to 240 V AC

- Before disconnecting the power cord, wait at least 30 seconds after turning off the power to allow the static electricity on the screen's surface to discharge.
- After the power is turned on, the screen is demagnetized (degaussed) for about 3 seconds. This generates a strong magnetic field around the screen which may affect data stored on magnetic tapes and disks placed near the monitor. Be sure to keep magnetic recording equipment, tapes, and disks away from the monitor.

The equipment should be installed near an easily accessible outlet.

Installation

Do not install the monitor in the following places:
- on surfaces (rugs, blankets, etc.) or near materials (curtains, draperies, etc.) that may block the ventilation holes
- near heat sources such as radiators or air ducts, or in a place subject to direct sunlight
- in a place subject to severe temperature changes
- in a place subject to mechanical vibration or shock
- on an unstable surface
- near equipment which generates magnetism, such as a transformer or high voltage power lines
- near or on an electrically charged metal surface

Maintenance

- Clean the screen with a soft cloth. If you use a glass cleaning liquid, do not use any type of cleaner containing an anti-static solution or similar additive as this may scratch the screen's coating.
- Do not rub, touch, or tap the surface of the screen with sharp or abrasive items such as a ballpoint pen or screwdriver. This type of contact may result in a scratched picture tube.
- Clean the cabinet, panel and controls with a soft cloth lightly moistened with a mild detergent solution. Do not use any type of abrasive pad, scouring powder or solvent, such as alcohol or benzene.

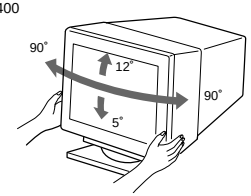
Transportation

When you transport this monitor for repair or shipment, use the original carton and packing materials.

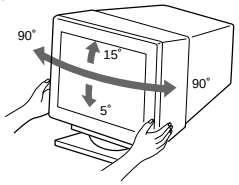
Use of the tilt-swivel

This monitor can be adjusted within the angles shown below. To turn the monitor vertically or horizontally, hold it at the bottom with both hands.

GDM-F400



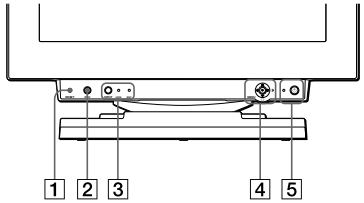
GDM-F500



Identifying parts and controls

See the pages in parentheses for further details. GDM-F500 is used for illustration purposes throughout this manual.

Front



1 RESET button (page 14)
This button resets the adjustments to the factory settings.

2 ASC (auto sizing and centering) button (page 9)
This button automatically adjusts the size and centering of the picture.

3 INPUT button and HD 15/BNC indicators (page 9)
This button selects the HD15 or BNC video input signal. The input signal and corresponding input indicator change each time you press this button.

4 Joystick (page 11)
The joystick is used to display the menu and make adjustments to the monitor, including brightness and contrast adjustments.

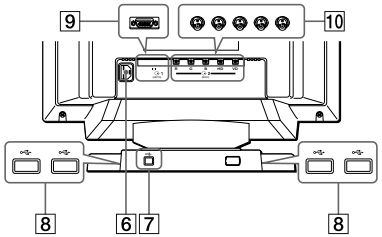
5 ⏻ (power) switch and indicator (pages 7, 15, 18)
This button turns the monitor on and off. The power indicator lights up in green when the monitor is turned on, and either flashes in green and orange, or lights up in orange when the monitor is in power saving mode.

6 AC IN connector (page 7)
This connector provides AC power to the monitor.

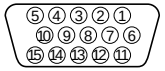
7 USB (universal serial bus) upstream connector (page 8)
Use this connector to link the monitor to a USB compliant computer.

8 USB (universal serial bus) downstream connectors (page 8)
Use these connectors to link USB peripheral devices to the monitor.

Rear



9 Video input 1 connector (HD15) (page 6)
This connector inputs RGB video signals (0.700 Vp-p, positive) and sync signals.



Pin No.	Signal
1	Red
2	Green (Composite Sync on Green)
3	Blue
4	ID (Ground)
5	DDC Ground*
6	Red Ground
7	Green Ground
8	Blue Ground
9	DDC + 5V*
10	Ground
11	ID (Ground)
12	Bi-Directional Data (SDA)*
13	H. Sync
14	V. Sync
15	Data Clock (SCL)*

* DDC (Display Data Channel) is a standard of VESA.

10 Video input 2 connector (BNC) (page 6)
This connector inputs RGB video signals (0.700 Vp-p, positive) and sync signals.

EN

1-1

Setup

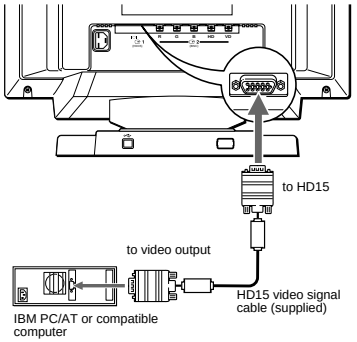
Before using your monitor, check that the following accessories are included in your carton:

- Power cord (1)
- HD15 video signal cable (1)
- USB cable (1)
- Macintosh adapter (1)
- Windows Monitor Information Disk (1)
- Warranty card (1)
- Notes on cleaning the screen's surface (1)
- This instruction manual (1)

Step 1: Connect your monitor to your computer

Turn off the monitor and computer before connecting.

■ Connecting to an IBM PC/AT or compatible computer



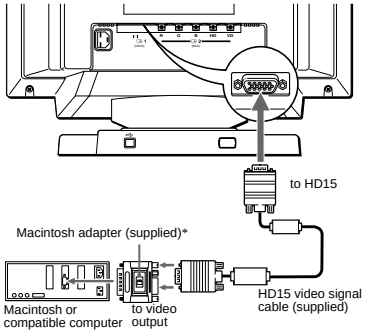
If your PC system is not compatible with Plug & Play (DDC2AB or DDC2B+)

This monitor uses the No.9 pin in the video signal connector for Plug & Play (DDC2AB or DDC2B+) compatibility. See page 5 for the location of the No.9 pin.

- If your computer accepts the No.9 pin, use the supplied HD15 video signal cable.
- If your computer does not accept the No.9 pin, please consult your dealer for advice on obtaining an HD15 adapter.

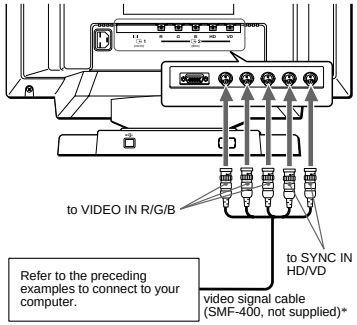
■ Connecting to a Macintosh or compatible computer

Use the supplied Macintosh adapter.



* Connect the supplied Macintosh adapter to the computer before connecting the cable. This adapter is compatible with Macintosh LC, Performa, Quadra, Power Macintosh and Power Macintosh G3 series computers. Macintosh II series and some older versions of PowerBook models may need an adapter with micro switches (not supplied).

■ Connecting to the five BNC connectors


to VIDEO IN R/G/B
to SYNC IN HD/VD
Refer to the preceding examples to connect to your computer.
video signal cable (SMF-400, not supplied)*

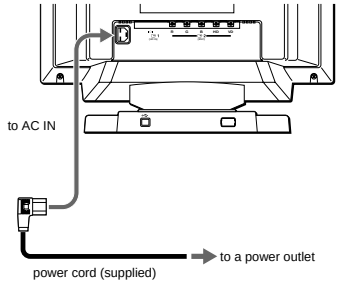
* Connect the cables from left to right in the following order: Red-Green-Blue-HD-VD.

Notes

- Do not touch the pins of the video cable connector as this might bend the pins.
- Plug & Play (DDC) does not apply to the five BNC connectors. If you want to use Plug & Play, connect your computer to the HD15 connector using the supplied video signal cable.

Step 2: Connect the power cord

With the monitor and computer switched off, first connect the power cord to the monitor, then connect it to a power outlet.



Step 3: Turn on the monitor and computer

First turn on the monitor, then turn on the computer.

The installation of your monitor is complete.
If necessary, use the monitor's controls to adjust the picture.

If no picture appears on your screen

- Check that the monitor is correctly connected to the computer.
- If NO INPUT SIGNAL appears on the screen, try changing the input signal (page 9), and confirm that your computer's graphic board is completely seated in the correct bus slot.
- If you are replacing an old monitor with this model and OUT OF SCAN RANGE appears on the screen, reconnect the old monitor. Then adjust the computer's graphic board so that the horizontal frequency is between 30 – 107 kHz (GDM-F400) or 30 – 121 kHz (GDM-F500), and the vertical frequency is between 48 – 160 Hz.

For more information about the on-screen messages, see "Trouble symptoms and remedies" on page 16.

EN

For customers using Windows 95/98

To maximize the potential of your monitor, install the new model information file from the supplied Windows Monitor Information Disk onto your PC.
This monitor complies with the "VESA DDC" Plug & Play standard. If your PC/graphics board complies with DDC, select "Plug & Play Monitor (VESA DDC)" or this monitor's model name as the monitor type in the "Control Panel" of Windows 95/98. If your PC/graphics board has difficulty communicating with this monitor, load the Windows Monitor Information Disk and select this monitor's model name as the monitor type.

For customers using Windows NT4.0

Monitor setup in Windows NT4.0 is different from Windows 95/98 and does not involve the selection of monitor type. Refer to the Windows NT4.0 instruction manual for further details on adjusting the resolution, refresh rate, and number of colors.

Adjusting the monitor's resolution and color number

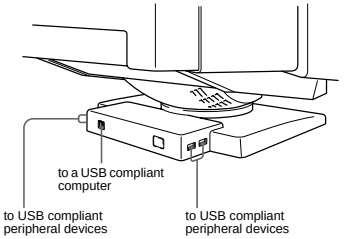
Adjust the monitor's resolution and color number by referring to your computer's instruction manual. The color number may vary according to your computer or video board. The color palette setting and the actual number of colors are as follows:

- High Color (16 bit) ⟶ 65,536 colors
- True Color (24 bit) ⟶ about 16.77 million colors

In true color mode (24 bit), speed may be slower.

Connecting Universal Serial Bus (USB) compliant peripherals

Your monitor has one upstream and four downstream USB connectors. They provide a fast and easy way to connect USB compliant peripheral devices (such as keyboards, mice, printers and scanners) to your computer using a standardized USB cable. To use your monitor as a hub for your peripheral devices, connect the USBs as illustrated below.



1 Turn on the monitor and computer.

2 Connect your computer to the square upstream connector using the supplied USB cable.

For customers using Windows
If a message appears on your screen, follow the on-screen instructions and select Generic USB Hub as the default setting.

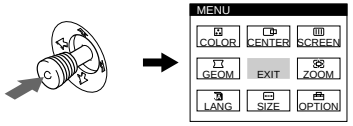
3 Connect your USB compliant peripheral devices to the rectangular downstream USB connectors.

Notes
- Not all computers and /or operating systems support USB configurations. Check your computer's instruction manual to see if you can connect USB devices.
- In most cases, USB driver software needs to be installed on the host computer. Refer to the peripheral device's instruction manual for further details.
- The monitor functions as a USB hub as long as the monitor is either "on" or in power saving mode.
- If you connect a keyboard or mouse to the USB connectors and then boot your computer for the first time, the peripheral devices may not function. First connect the keyboard and mouse directly to the computer and set up the USB compliant devices. Then connect them to this monitor.
- Do not lean on the monitor when plugging in the USB cables. The monitor may suddenly shift and cause injury.

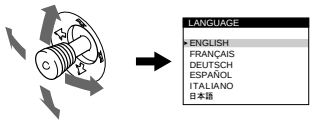
Selecting the on-screen menu language (LANG)

English, French, German, Spanish, Italian, and Japanese versions of the on-screen menus are available. The default setting is English.

1 Press the joystick
See page 11 for more information on using the joystick.



2 Move the joystick to highlight LANG and press the joystick again.



3 Move the joystick up or down to select a language and press the joystick again.
- ENGLISH
- FRANÇAIS: French
- DEUTSCH: German
- ESPAÑOL: Spanish
- ITALIANO: Italian
- 日本語: Japanese

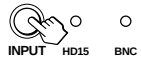
To close the menu
Press the joystick once to return to the main menu, and twice to return to normal viewing. If no buttons are pressed, the menu closes automatically after about 30 seconds.

To reset to English
Press the RESET button while the LANGUAGE menu is displayed on the screen.

Selecting the input signal

You can connect two computers to this monitor using the HD15 and BNC connectors. To switch between the two computers, use the INPUT button.

Press the INPUT button.
The input signal and corresponding input indicator change each time you press this button.

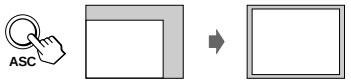


Notes
- If no signal is input to the selected connector, the monitor automatically switches to the other connector.
- If you restart the computer you want to view, or that computer is in power saving mode, the monitor may automatically switch to the other connector's signal. If this happens, manually select the desired signal using the INPUT button.

Automatically sizing and centering the picture

You can easily adjust the picture to fill the screen by pressing the ASC (auto sizing and centering) button.

Press the ASC button.
The picture automatically fills the screen.



Notes
- This function is intended for use with a computer running Windows or similar graphic user interface software that provides a full-screen picture. It may not work properly if the background color is dark or if the input picture does not fill the screen to the edges (such as an MS-DOS prompt).
- Pictures with an aspect ratio of 5:4 (resolution: 1280 × 1024, 1800 × 1440*) are displayed at their actual resolution and do not fill the screen to the edges.
- The screen may go blank for a few seconds when the ASC button is pressed. This is not a malfunction.

* GDM-F500 only

EN

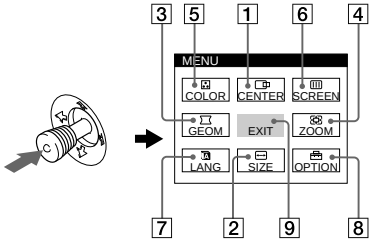
1-3

Customizing Your Monitor

You can make numerous adjustments to your monitor using the on-screen menu.

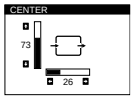
Navigating the menu

Press the joystick to display the main MENU on your screen. See page 11 for more information on using the joystick.

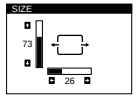


Use the joystick to select one of the following menus.

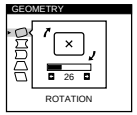
1 **CENTER (page 11)**
Select the CENTER menu to adjust the picture's centering.



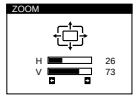
2 **SIZE (page 11)**
Select the SIZE menu to adjust the picture's horizontal and vertical size.



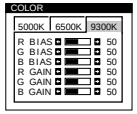
3 **GEOM (page 12)**
Select the GEOM menu to adjust the picture's rotation and shape.



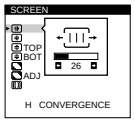
4 **ZOOM (page 12)**
Select the ZOOM menu to enlarge or reduce the picture.



5 **COLOR (page 12)**
Select the COLOR menu to adjust the picture's color temperature. You can use this to match the monitor's colors to a printed picture's colors.

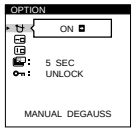


6 **SCREEN (page 13)**
Select the SCREEN menu to adjust the picture's quality. You can adjust the vertical and horizontal convergence, landing, and moire cancellation effect.



7 **LANG (page 8)**
Select LANG to choose the on-screen menu's language.

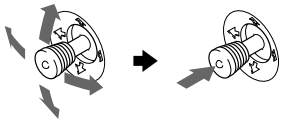
8 **OPTION (page 14)**
Select OPTION to adjust the monitor's options. The options include:
- degaussing the screen
- changing the on-screen menu position
- changing the power saving delay time
- locking the controls



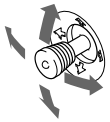
9 **EXIT**
Select EXIT to close the menu.

■ Using the joystick

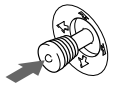
1 Select the menu you want to adjust.
Move the joystick up, down, left, or right to highlight the desired menu. Press the joystick to select the menu item.



2 Adjust the menu.
Move the joystick up, down, left, or right to make the adjustment.



3 Close the menu.
Press the joystick once to return to the main menu, and twice to return to normal viewing. If no buttons are pressed, the menu closes automatically after about 30 seconds.



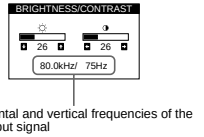
■ Resetting the adjustments

Press the RESET button. See page 14 for more information on resetting the adjustments.

Adjusting the brightness and contrast

Brightness and contrast adjustments are made using a separate BRIGHTNESS/CONTRAST menu.
These settings are stored in memory for all input signals.

1 Move the joystick in any direction.
The BRIGHTNESS/CONTRAST menu appears on the screen.



2 Move the joystick up or down to adjust the brightness (☼), and left or right to adjust the contrast (◑).
The menu automatically disappears after about 3 seconds.

Adjusting the centering of the picture (CENTER)

This setting is stored in memory for the current input signal.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight CENTER and press the joystick again.
The CENTER menu appears on the screen.

3 Move the joystick up or down to adjust the vertical centering, and left or right to adjust the horizontal centering.

Adjusting the size of the picture (SIZE)

This setting is stored in memory for the current input signal.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight SIZE and press the joystick again.
The SIZE menu appears on the screen.

3 Move the joystick up or down to adjust the vertical size, and left or right to adjust the horizontal size.

EN

Adjusting the shape of the picture (GEOM)

The GEOM settings allow you to adjust the rotation and shape of the picture.
The rotation setting is stored in memory for all input signals. All other settings are stored in memory for the current input signal.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight GEOM and press the joystick again.
The GEOMETRY menu appears on the screen.

3 First move the joystick up or down to select the desired adjustment item. Then move the joystick left or right to make the adjustment.

Select	To
ROTATION	rotate the picture
PINCUSHION	expand or contract the picture sides
PIN BALANCE	shift the picture sides to the left or right
KEYSTONE	adjust the picture width at the top of the screen
KEY BALANCE	shift the picture to the left or right at the top of the screen

Enlarging or reducing the picture (ZOOM)

This setting is stored in memory for the current input signal.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight ZOOM and press the joystick again.
The ZOOM menu appears on the screen.

3 Move the joystick left or right to enlarge or reduce the picture.

Note
Adjustment stops when either the horizontal or vertical size reaches its maximum or minimum value.

Adjusting the color of the picture (COLOR)

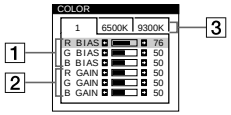
The COLOR settings allow you to adjust the picture's color temperature by changing the color level of the white color field. Colors appear reddish if the temperature is low, and bluish if the temperature is high. This adjustment is useful for matching the monitor's colors to a printed picture's colors.
This setting is stored in memory for all input signals.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight COLOR and press the joystick again.
The COLOR menu appears on the screen.

3 Move the joystick left or right to select a color temperature.
The preset color temperatures are 5000K, 6500K, and 9300K. Since the default setting is 9300K, the whites will change from a bluish hue to a reddish hue as the temperature is lowered to 6500K and 5000K.

4 If necessary, fine tune the color temperature.
First move the joystick up or down to select the desired adjustment item. Then move the joystick left or right to make the adjustment.



1 Adjusting the BIAS (black level)
This changes the brightness of both the dark and light areas of an image.

2 Adjusting the GAIN (white level)
This changes the contrast of just the light areas of an image.

You can adjust the R(Red), G(Green), and B(Blue) component of the input signal when making changes to items 1 and 2.

If you fine tune the color temperature, the new color settings are stored in memory for each of the three color temperatures and item 3 of the on-screen menu changes as follows:
- [5000K] → [1]
- [6500K] → [2]
- [9300K] → [3]

Adjusting the quality of the picture (SCREEN)

The SCREEN settings allow you to adjust the quality of the picture by controlling the convergence, moire, and landing.
- If you see red or blue shadows around letters or lines, adjust the convergence.
- If elliptical or wavy patterns appear on the screen, cancel the moire.
- If the color is irregular at the corners of the screen, adjust the landing.

The CANCEL MOIRE and MOIRE ADJUST settings are stored in memory for the current input signal. All other settings are stored in memory for all input signals.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight SCREEN and press the joystick again.
The SCREEN menu appears on the screen.

3 First move the joystick up or down to select the desired adjustment item. Then move the joystick left or right to make the adjustment.

Select	To
H CONVERGENCE	horizontally shift red or blue shadows
V CONVERGENCE	vertically shift red or blue shadows
TOP V CONVER TOP	vertically shift red or blue shadows at the top of the screen
BOT V CONVER BOT	vertically shift red or blue shadows at the bottom of the screen
LANDING	select one of the four corners of the screen :top left :top right :bottom left :bottom right
ADJ LANDING ADJUST	reduce any irregularities in the color of the corner selected in LANDING to a minimum
CANCEL MOIRE*	turn the moire cancellation function ON or OFF ADJ (MOIRE ADJUST) appears in the menu when you select ON
ADJ MOIRE ADJUST	adjust the degree of moire cancellation until the moire is at a minimum

* Moire is a type of natural interference which produces soft, wavy lines on your screen. It may appear due to interference between the pattern of the picture on the screen and the phosphor pitch pattern of the monitor.

Example of moire

Note
The picture may become fuzzy when CANCEL MOIRE is set to ON.

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1-5

Additional settings (OPTION)

You can manually degauss (demagnetize) the monitor, change the menu position, set the power saving delay time, and lock the controls.

1 Press the joystick.
The main MENU appears on the screen.

2 Move the joystick to highlight OPTION and press the joystick again.
The OPTION menu appears on the screen.

3 Move the joystick to highlight the desired adjustment item.
Adjust the selected item according to the following instructions.

Degaussing the screen

The monitor is automatically demagnetized when the power is turned on.
To manually degauss the monitor, first move the joystick up or down to select (MANUAL DEGAUSS). Then move the joystick to the right.
The screen is degaussed for about 3 seconds. If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result.

Changing the menu's position.

Change the menu's position if it is blocking an image on the screen.
To change the menu's on-screen position, first move the joystick up or down to select (OSD H POSITION) for horizontal adjustment, or (OSD V POSITION) for vertical adjustment. Then move the joystick to the left or right to shift the on-screen menu.

Changing the power saving delay time.

To adjust the time it takes to enter the power saving mode, first move the joystick up or down to select (PWR SAVE DELAY). Then move the joystick to the left or right to select the desired time.
If you select OFF, the monitor does not enter power saving mode. See page 15 for more information about the monitor's power saving capabilities.

Locking the controls.

To protect adjustment data by locking the controls, first move the joystick up or down to select (CONTROL LOCK). Then move the joystick to the right to select LOCK.
Only the (power) switch, EXIT, and (CONTROL LOCK) of the OPTION menu will operate. If any other items are selected, the mark appears on the screen.

To cancel the control lock
Repeat the procedure above and set (CONTROL LOCK) to UNLOCK.

Resetting the adjustments

This monitor has the following three reset methods. Use the RESET button to reset the adjustments.

Resetting a single adjustment item

Use the joystick to select the adjustment item you want to reset, and press the RESET button.

Resetting all of the adjustment data for the current input signal

Press the RESET button when no menu is displayed on the screen. Note that the following items are not reset by this method:
- on-screen menu language (page 8)
- on-screen menu position (page 14)
- power saving delay time (page 14)
- control lock (page 14)

Resetting all of the adjustment data for all input signals

Press and hold the reset button for more than two seconds.

Note
The RESET button does not function when (CONTROL LOCK) is set to LOCK.

Technical Features

Preset and user modes

When the monitor receives an input signal, it automatically matches the signal to one of the factory preset modes stored in the monitor's memory to provide a high quality picture at the center of the screen. (See page i for a list of the factory preset modes.) For input signals that do not match one of the factory preset modes, the digital Multiscan technology of this monitor ensures that a clear picture appears on the screen for any timing in the monitor's frequency range (horizontal: 30 – 107 kHz (GDM-F400) or 30 – 121 kHz (GDM-F500), vertical: 48 – 160 Hz) . If the picture is adjusted, the adjustment data is stored as a user mode and automatically recalled whenever the same input signal is received.

Note for Windows users

For Windows users, check your video board manual or the utility program which comes with your graphic board and select the highest available refresh rate to maximize monitor performance.

Power saving function

This monitor meets the power-saving guidelines set by VESA, ENERGY STAR, and NUTEK. If the monitor is connected to a computer or video graphics board that is DPMS (Display Power Management Signaling) compliant, the monitor will automatically reduce power consumption in three stages as shown below.

Power mode	Power consumption*	(power) indicator
normal operation	≤ 160 W (GDM-F500) ≤ 140 W (GDM-F400)	green
1 standby	≤ 100 W (GDM-F500) ≤ 80 W (GDM-F400)	green and orange alternate
2 suspend	≤ 15 W (GDM-F500) ≤ 10 W (GDM-F400)	green and orange alternate
3 active off**	≤ 1 W (GDM-F500) ≤ 3 W (GDM-F400)	orange
power off	0 W	off

* Figures reflect power consumption when no USB compatible peripherals are connected to the monitor.
**When your computer enters the "active off" mode, the input signal is cut and NO INPUT SIGNAL appears on the screen. After the time set in "Changing the power saving delay time." (page 14) has elapsed, the monitor enters the power saving mode.

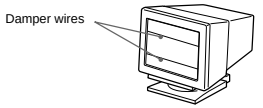
To change the power saving delay time
See page 14.

Troubleshooting

Before contacting technical support, refer to this section.

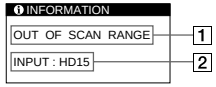
If thin lines appear on your screen (damper wires)

The lines you are experiencing on your screen are normal for the Trinitron monitor and are not a malfunction. These are shadows from the damper wires used to stabilize the aperture grille and are most noticeable when the screen's background is light (usually white). The aperture grille is the essential element that makes a Trinitron picture tube unique by allowing more light to reach the screen, resulting in a brighter, more detailed picture.



On-screen messages

If there is something wrong with the input signal, one of the following messages appears on the screen. To solve the problem, see "Trouble symptoms and remedies" on page 16.



1 The input signal condition
OUT OF SCAN RANGE
indicates that the input signal is not supported by the monitor's specifications.
NO INPUT SIGNAL
indicates that no signal is input, or that no signal is input from the selected connector (HD15 or BNC).

2 The connector indicator
This message indicates which connector is receiving the wrong signal. If there is something wrong with the signal from both connectors, HD15 and BNC are displayed alternately.

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Trouble symptoms and remedies

If the problem is caused by the connected computer or other equipment, please refer to the connected equipment's instruction manual. Use the self-diagnosis function (page 18) if the following recommendations do not resolve the problem.

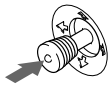
Symptom	Check these items
No picture	
If the ⏻ (power) indicator is not lit	• Check that the power cord is properly connected. • Check that the ⏻ (power) switch is in the "on" position.
If the NO INPUT SIGNAL message appears on the screen, or if the ⏻ (power) indicator is either orange or alternating between green and orange	• Check that the video signal cable is properly connected and all plugs are firmly seated in their sockets. If you are using the five BNC connectors, connect them in the correct order (from left to right: Red-Green-Blue-HD-VD) (page 6). • Check that the input select setting is correct (page 9). • Check that the HD15 video input connector's pins are not bent or pushed in. **■Problems caused by the connected computer or other equipment** • The computer is in power saving mode. Try pressing any key on the computer keyboard. • Check that the computer's power is "on." • Check that the graphic board is completely seated in the proper bus slot.
If the OUT OF SCAN RANGE message appears on the screen	**■Problems caused by the connected computer or other equipment** • Check that the video frequency range is within that specified for the monitor. If you replaced an old monitor with this monitor, reconnect the old monitor and adjust the frequency range to the following. Horizontal: 30 – 107 kHz (GDM-F400), 30 – 121 kHz (GDM-F500) Vertical: 48 – 160 Hz
If no message is displayed and the ⏻ (power) indicator is green or flashing orange	• Use the Self-diagnosis function (page 18).
If using Windows 95/98	• If you replaced an old monitor with this monitor, reconnect the old monitor and do the following. Install the Windows Monitor Information Disk (page 7) and select this monitor ("GDM-F400" or "GDM-F500") from among the Sony monitors in the Windows 95/98 monitor selection screen. If you choose to select "Plug and Play," connect the monitor to the computer with the HD15 video signal cable. You cannot use the five BNC connectors.
If using a Macintosh system	• Check that the Macintosh adapter and the video signal cable are properly connected (page 6).
Picture flickers, bounces, oscillates, or is scrambled	• Isolate and eliminate any potential sources of electric or magnetic fields such as other monitors, laser printers, electric fans, fluorescent lighting, or televisions. • Move the monitor away from power lines or place a magnetic shield near the monitor. • Try plugging the monitor into a different AC outlet, preferably on a different circuit. • Try turning the monitor 90° to the left or right. **■Problems caused by the connected computer or other equipment** • Check your graphics board manual for the proper monitor setting. • Confirm that the graphics mode (VESA, Macintosh 21" Color, etc.) and the frequency of the input signal are supported by this monitor (page i). Even if the frequency is within the proper range, some video boards may have a sync pulse that is too narrow for the monitor to sync correctly. • Adjust the computer's refresh rate (vertical frequency) to obtain the best possible picture.
Picture is fuzzy	• Adjust the brightness and contrast (page 11). • Degauss the monitor* (page 14). • If CANCEL MOIRE is ON, the picture may become fuzzy. Decrease the moire cancellation effect or set CANCEL MOIRE to OFF (page 13).

Symptom	Check these items
Picture is ghosting	• Eliminate the use of video cable extensions and/or video switch boxes. • Check that all plugs are firmly seated in their sockets.
Picture is not centered or sized properly	• Press the ASC button (page 9). • Adjust the size (page 11) or centering (page 11). Note that some video modes do not fill the screen to the edges.
Edges of the image are curved	• Adjust the geometry (page 12).
Wavy or elliptical pattern (moire) is visible	• Cancel the moire (page 13). **■Problems caused by the connected computer or other equipment** • Change your desktop pattern.
Color is not uniform	• Degauss the monitor* (page 14). If you place equipment that generates a magnetic field, such as a speaker, near the monitor, or if you change the direction the monitor faces, color may lose uniformity. • Adjust the landing (page 13).
White does not look white	• Adjust the color temperature (page 12). • Check that the five BNC connectors are connected in the correct order (from left to right: Red-Green-Blue-HD-VD) (page 6).
Letters and lines show red or blue shadows at the edges	• Adjust the convergence (page 13).
Monitor buttons do not operate	• If the control lock is set to LOCK, set it to UNLOCK (page 14).
USB peripherals do not function	• Check that the appropriate USB connectors are securely connected (page 8). • Check that the ⏻ (power) switch is in the "on" position. **■Problems caused by the connected computer or other equipment** • Check that the power of any self-powered USB compliant peripheral devices is "on." • Install the latest version of the device driver on your computer. Contact your device's manufacturer for information about the appropriate device driver. • If your USB compliant keyboard or mouse does not function, connect them directly to your computer, reboot your computer, and make any necessary adjustments to the USB settings. Then reconnect the keyboard or mouse to the monitor. • For customers using Windows 95 1. Right-click on My Computer and select Properties. 2. Click on the Device Manager tab. Scroll down and select Universal Serial Bus Controller. ➡If Universal Serial Bus Controller does not appear, you need to load a USB supplement disk. Contact your computer's manufacturer for more information about obtaining a USB supplement disk. 3. Select Generic USB Device from the USB controller list and click on Properties. 4. If there is a check in the box next to "Disable in this hardware profile," remove the check. 5. Click on Refresh.
A hum is heard right after the power is turned on	• This is the sound of the auto-degauss cycle. When the power is turned on, the monitor is automatically degaussed for three seconds.

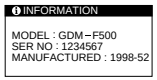
* If a second degauss cycle is needed, allow a minimum interval of 20 minutes for the best result. A humming noise may be heard, but this is not a malfunction.

Displaying this monitor's name, serial number, and date of manufacture.

While the monitor is receiving a video signal, press and hold the joystick for more than three seconds to display this monitor's information box.



Example

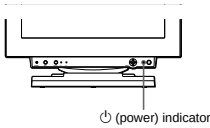


If the problem persists, call your authorized Sony dealer and give the following information.

- Model name: GDM-F400, GDM-F500
- Serial number
- Name and specifications of your computer and graphics board.

Self-diagnosis function

This monitor is equipped with a self-diagnosis function. If there is a problem with your monitor or computer(s), the screen will go blank and the ⏻ (power) indicator will either light up green or flash orange. If the ⏻ (power) indicator is lit in orange, the computer is in power saving mode. Try pressing any key on the keyboard.



If the ⏻ (power) indicator is green

1 Remove any plugs from the video input 1 and 2 connectors, or turn off the connected computer(s).

2 Press the ⏻ (power) button to turn the monitor off and on.

3 Move the joystick to the right for 2 seconds before the monitor enters power saving mode.

If all four color bars appear (white, red, green, blue), the monitor is working properly. Reconnect the video input cables and check the condition of your computer(s).

If the color bars do not appear, there is a potential monitor failure. Inform your authorized Sony dealer of the monitor's condition.

If the ⏻ (power) indicator is flashing orange

Press the ⏻ (power) button to turn the monitor off and on.
If the ⏻ (power) indicator lights up green, the monitor is working properly.

If the ⏻ (power) indicator is still flashing, there is a potential monitor failure. Count the number of seconds between orange flashes of the ⏻ (power) indicator and inform your authorized Sony dealer of the monitor's condition. Be sure to note the model name and serial number of your monitor. Also note the make and model of your computer and video board.

Specifications

GDM-F400

CRT	0.22 mm aperture grille pitch 19 inches measured diagonally 90-degree deflection FD Trinitron
Viewable image size	Approx. 364.8 × 273.6 mm (w/h) (14 3/8 × 10 7/8 inches) 18.0" viewing image
Resolution	Horizontal: Max. 1600 dots Vertical: Max. 1200 lines
Standard image area	Approx. 352 × 264 mm (w/h) (13 7/8 × 10 1/2 inches) or Approx. 330 × 264 mm (w/h) (13 × 10 1/2 inches)
Deflection frequency*	Horizontal: 30 to 107 kHz Vertical: 48 to 160 Hz
AC input voltage/current	100 to 240 V, 50 – 60 Hz, 1.8 – 1.0 A
Power consumption	Max. 140 W (with no USB devices connected)
Dimensions	Approx. 444 × 476 × 455 mm (w/h/d) (17 1/2 × 18 3/4 × 18 inches)
Mass	Approx. 28 kg (61 lb 12 oz)
Plug and Play	DDC1/DDC2B/DDC2Bi/DDC2B+
Supplied accessories	See page 6

GDM-F500

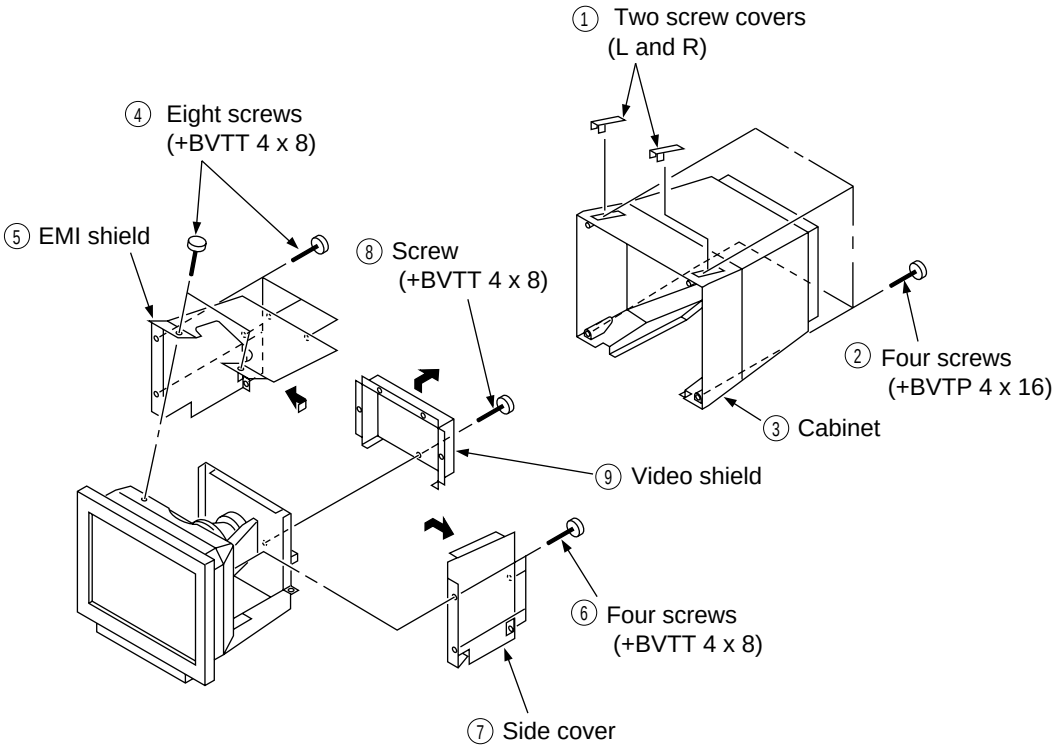
CRT	0.22 mm aperture grille pitch 21 inches measured diagonally 90-degree deflection FD Trinitron
Viewable image size	Approx. 403.8 × 302.2 mm (w/h) (16 × 12 inches) 19.8" viewing image
Resolution	Horizontal: Max. 1800 dots Vertical: Max. 1440 lines
Standard image area	Approx. 388 × 291 mm (w/h) (15 3/8 × 11 1/2 inches) or Approx. 364 × 291 mm (w/h) (14 3/8 × 11 1/2 inches)
Deflection frequency*	Horizontal: 30 to 121 kHz Vertical: 48 to 160 Hz
AC input voltage/current	100 to 240 V, 50 – 60 Hz, 2.0 – 1.0 A
Power consumption	Max. 160 W (with no USB devices connected)
Dimensions	Approx. 502 × 511 × 486.3 mm (w/h/d) (19 7/8 × 20 1/8 × 19 1/4 inches)
Mass	Approx. 34 kg (74 lb 15 oz)
Plug and Play	DDC1/DDC2B/DDC2AB/DDC2B+
Supplied accessories	See page 6

* Recommended horizontal and vertical timing condition
- Horizontal sync width duty should be more than 4.8% of total horizontal time or 0.8 µs, whichever is larger.
- Horizontal blanking width should be more than 2.5 µsec.
- Vertical blanking width should be more than 450 µsec.

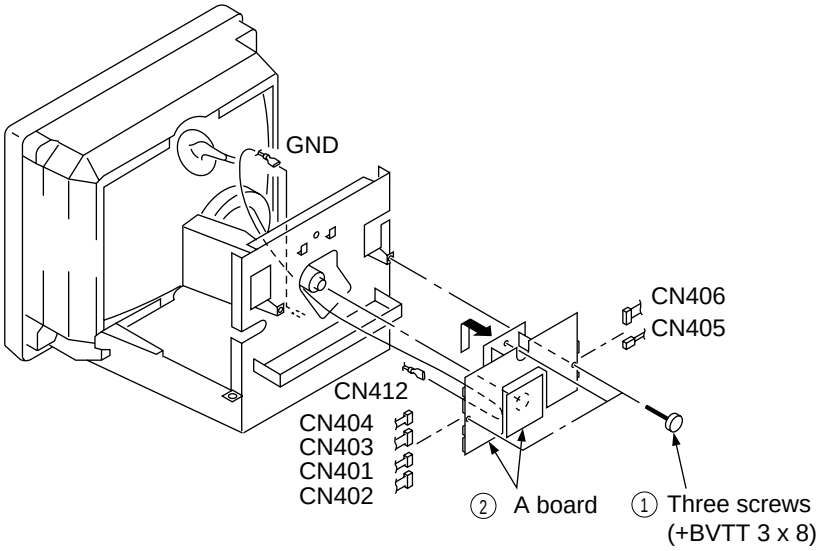
Design and specifications are subject to change without notice.

SECTION 2
DISASSEMBLY

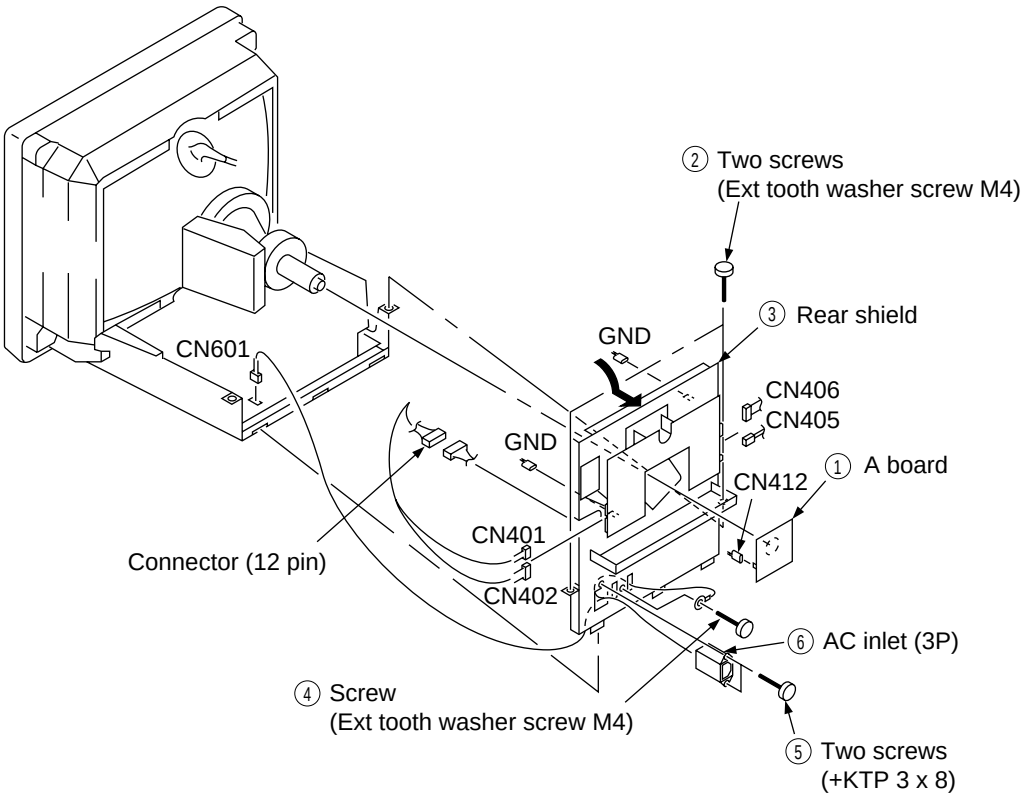
2-1. CABINET REMOVAL



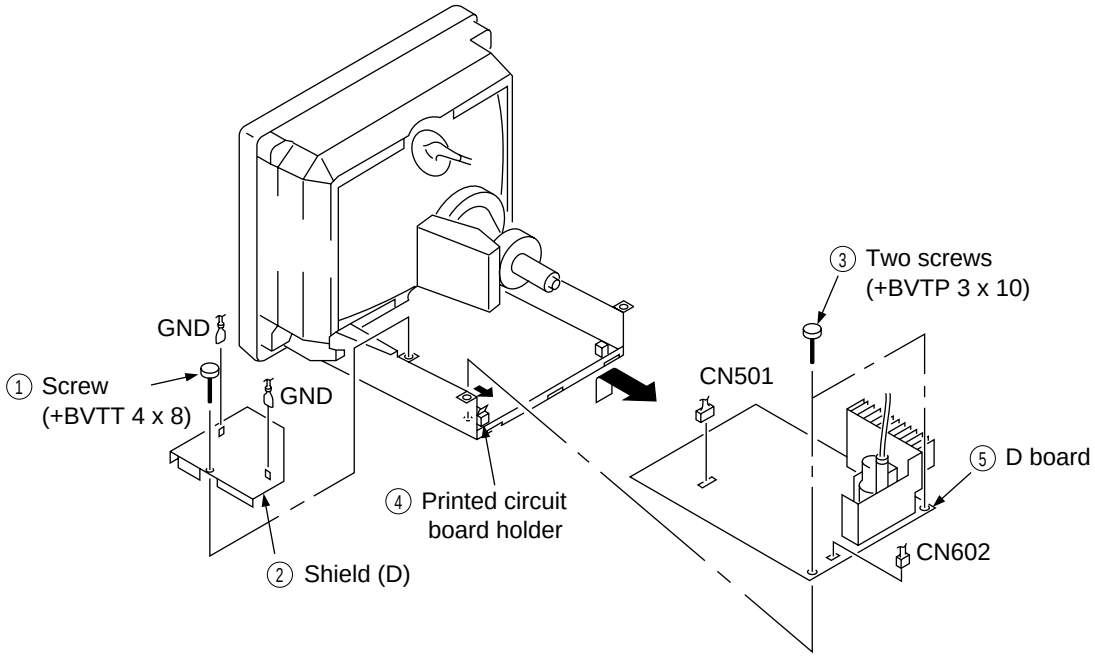
2-2. A BOARD REMOVAL



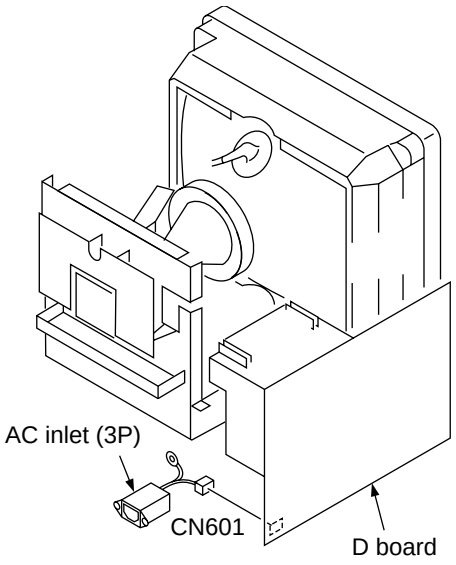
2-3. AC INLET AND REAR SHIELD REMOVAL



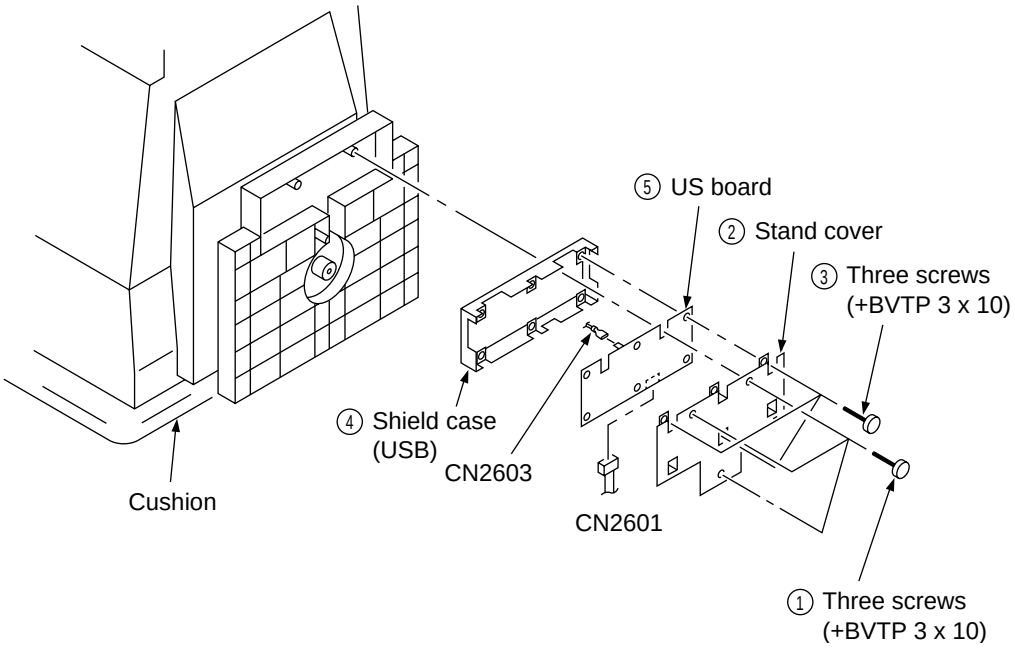
2-4. D BOARD REMOVAL



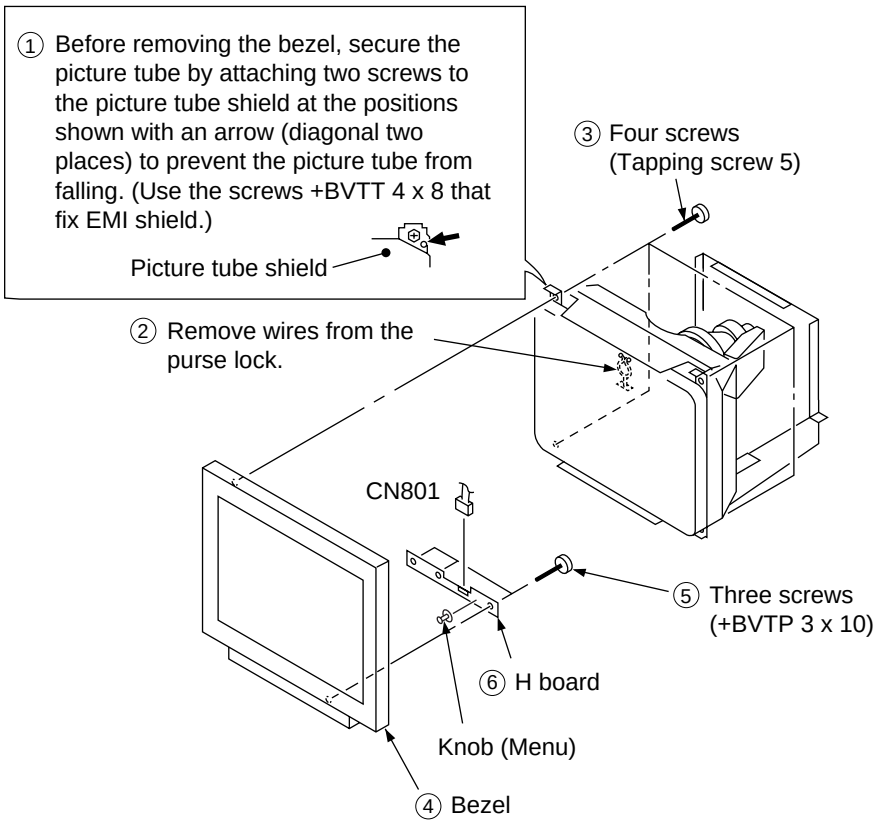
2-5. SERVICE POSITION



2-6. US BOARD REMOVAL

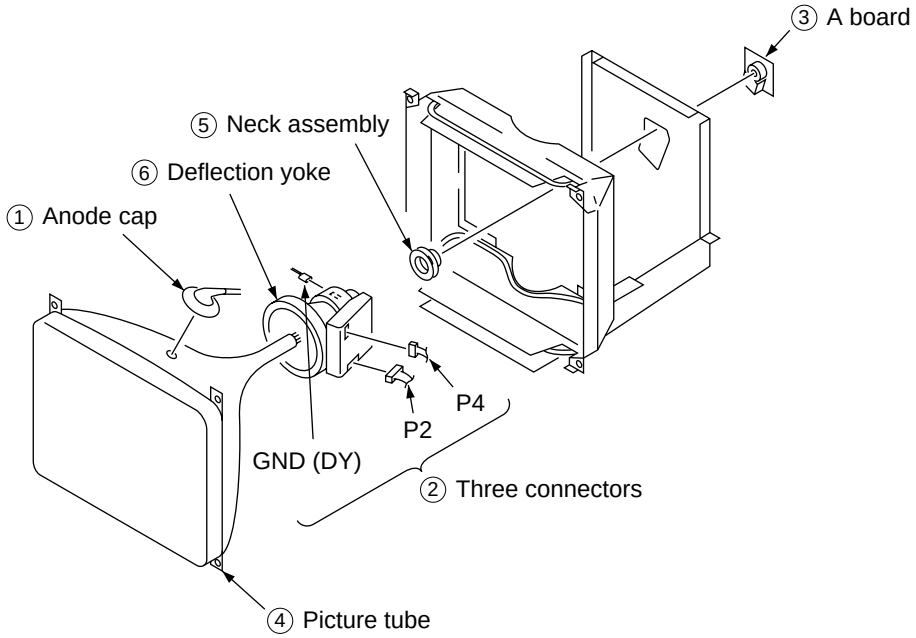


2-7. BEZEL AND H BOARD REMOVAL


① Before removing the bezel, secure the picture tube by attaching two screws to the picture tube shield at the positions shown with an arrow (diagonal two places) to prevent the picture tube from falling. (Use the screws +BVTT 4 x 8 that fix EMI shield.)
Picture tube shield
③ Four screws (Tapping screw 5)
② Remove wires from the purse lock.
CN801
⑤ Three screws (+BVTP 3 x 10)
⑥ H board
Knob (Menu)
④ Bezel

2-8. PICTURE TUBE REMOVAL

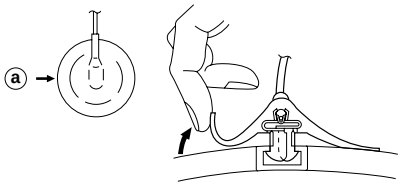
• Remove the bezel. (Refer to 2-7.)



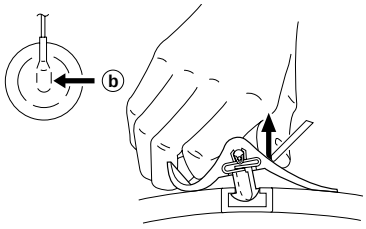
• REMOVAL OF ANODE-CAP

NOTE: Short circuit the anode of the picture tube and the anode cap to the metal chassis, CRT shield or carbon painted on the CRT, after removing the anode.

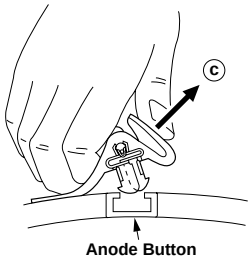
• REMOVING PROCEDURES



① Turn up one side of the rubber cap in the direction indicated by the arrow ⓐ.



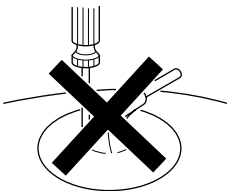
② Using a thumb pull up the rubber cap firmly in the direction indicated by the arrow ⓑ.

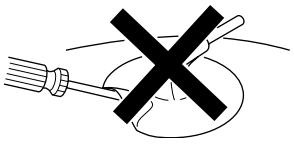


③ When one side of the rubber cap is separated from the anode button, the anode-cap can be removed by turning up the rubber cap and pulling up it in the direction of the arrow ⓒ.

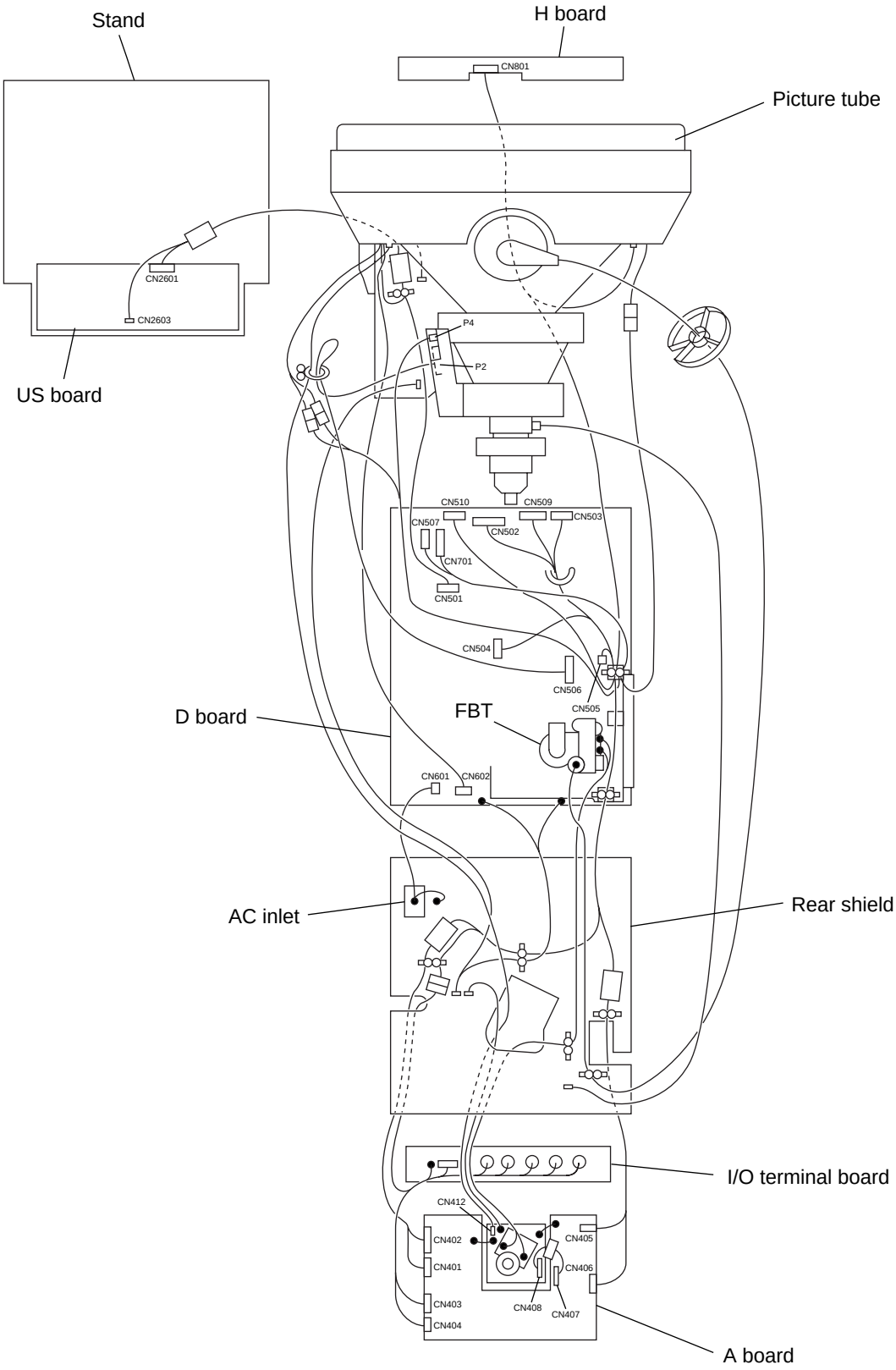
• HOW TO HANDLE AN ANODE-CAP

① Don't hurt the surface of anode-caps with shartp shaped material!
② Don't press the rubber hardly not to hurt inside of anode-caps! A material fitting called as shatter-hook terminal is built in the rubber.
③ Don't turn the foot of rubber over hardly! The shatter-hook terminal will stick out or hurt the rubber.





2-9. HARNESS LOCATION



SECTION 3
SAFETY RELATED ADJUSTMENT

When replacing or repairing the shown below table, the following operational checks must be performed as a safety precaution against X-rays emissions from the unit.

	Part Replaced (⧓)
HV ADJ	RV901

	Part Replaced (◪)
HV Regulator Circuit Check	D Board T901(FBT), IC901, R903, R922, RV901 • Mounted D board
HV Protector Circuit Check	D Board T901(FBT), R927, R920, C923, D913, D916, R935, R936 • Mounted D board
Beam Current Protector Circuit Check	D Board R933, R932, R934, R923, R928, R939, R918, R053, IC901, D918, D901, D902, T901(FBT) • Mounted D board

* Confirm one minute later turning on the power.

a) HV Protector Circuit Check

1) Confirm that the voltage between cathode of D913 on G board and GND is more than 25.5 V DC.
2) Confirm that the HV protector circuit works and TV Raster disappears when apply the voltage less than 34.2 V DC between cathode of D913 and GND using an external DC power supply.

b) Beam Current Protector Circuit Check-1 (Hardware)

Apply 4.7 V DC to the connection point of R932 and R933. Connect constant current source to the FBT ⑪ pin (–) on the D board and to the GND, then confirm that when 2.0 mA is flown, the beam protector circuit operates and high voltage value drops over 1.0 kV.

c) Beam Current Protector Circuit Check-2 (Software)

Connect constant current source to the FBT ⑪ pin (–) on the D board and to the GND, then confirm that when 1.7 mA is flown, the beam protector circuit operates and IIV value (CRT anode voltage) is below 1.0 k VDC.

Or, confirm that the raster disappears.

SECTION 4
ADJUSTMENTS

• Landing Rough Adjustment

1. Enter the full white signal. (or the full black dots signal).
2. Adjust the contrast to the maximum.
3. Make the screen monogreen.

Note: Off the outputs from R ch and B ch of SG.

4. Reverse the DY, and adjust coarsely the purity magnet so that a green raster positions in the center of screen.
5. Adjust the tilt of DY, and fix lightly with a clamp.

Note: "TILT" shall be set at 128.

• Landing Fine Adjustment

1. Put the set inside the Helmholtz coil. ("LCC SW" = "140")
2. Input the single green signal and set the CONT control to MAX.

Note: After the W/B adjustment with 9300K, measure an average of ΣIk when a full white signal is entered in the CONT MAX/BRT CENT status. Then make adjustment so that the specified screen can be attained after aging for 2 hours with Ik equivalent to 30% of the average value.

3. Demagnetize the metal part of the chassis with the hand degausser and coil degausser, and the CRT surface with the hand degausser.
   Input AC 230V to AC IN, turn on and off the power to perform auto degaussing. (Perform auto degaussing by setting "MON CON REG2"=152. Return to the original value after use.)
   Demagnetize the CRT surface with the hand degausser again.

Note:

(1) Hand degauss must be used on stand-by or power-off condition.
   This model has an automatic earth magnetism correction function by using an earth magnetism sensor and a LCC coil. When using a hand degauss while monitor (LCC coil) is being operated, it sometimes gets magnetized, and the system may not work properly as a result.

(2) Adjust in a non-magnetic field. BV=24uT.

(3) If adjusting in a magnetic fields, add the shift from the non-magnetic field in your estimation.

4. Attach the wobbling coil to the designated part of the CRT neck.
5. Attach the sensor of the landing adjustment unit on the CRT surface.
6. Adjust the DY position and purity, and the DY tilt, and landing of the center and 4 corners with the landing checker.
   - Moving the "LCC_NS" , adjust the landing at the Y end.
   - Adjust the landing by moving "LCC NS", "LCC LT", "LCC LB", "LCC RT" and "LCC RB". However, the register adjustment must be limited within the following range.
     "LCC NS" 128 ± 20
     "LCC LT", "LCC LB", "LCC RT", "LCC RB" 128 ± 30
     After adjustment, save the service data.

<Specifications>

Adjust so that the green is within the specification given right.
Adjust target : within ± 1

(μm)

0 ± 3	0 ± 7.5	0 ± 3
0 ± 5	0 ± 5	0 ± 5
0 ± 3	0 ± 7.5	0 ± 3

The red and blue must be within the specification given right with respect to the green.

(μm)

± 6	± 6	± 6
± 6	± 4	± 6
± 6	± 6	± 6

A difference between red and blue must be within the specification given right.

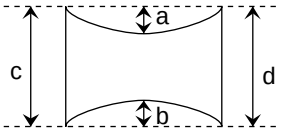
(μm)

10	10	10
10	7	10
10	10	10

* Adjustment and measurement should be made at the points one inch inside the fluorescent screen.

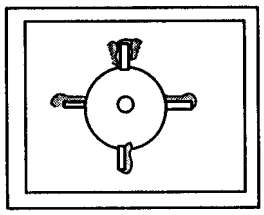
7. Insert wedges to make the DY neck stand upright without moving it.
   At this time, without shaking the DY, firmly insert the wedges.
8. Adjust vertical swing with the vertical pin, and adjust horizontal swing so that horizontal keystone and V TILT become optimum, then fix with four wedges.
   In Such a case, insert wedges tightly to eliminate a play of DY.

<How to fix with wedges>



"a" and "b" must be equal, and "c" and "d" must be almost equal .

<How to drive in wedges>



Apply an adhesive to the top wedge only. Apply it to both sides of wedge and inside of DY.

9. Check the landing of each corner, and if it does not satisfy the specification, paste a Disk-Mg onto the funnel and adjust.

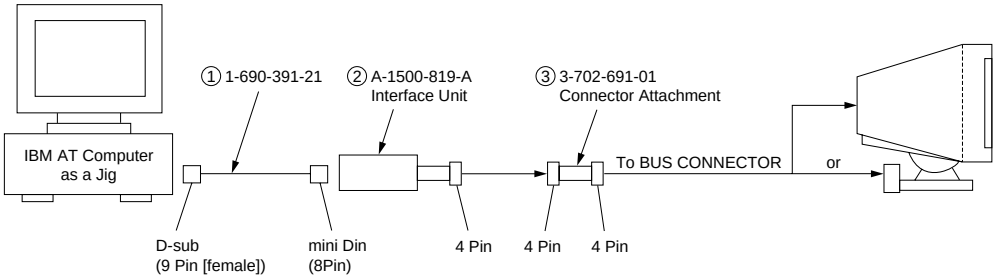
(1) Do not paste more than two magnets on one corner.

(2) Magnets will be placed in a range 80 ~ 100 mm from the DY along diagonal lines.

(3) After placing magnets, absolutely hand degauss and check the results. (Hand degauss must be used on stand-by or power-off condition.)

10. Remove the sensor and wobbling coil.
11. Switch the signal to R.G.B., and check that each color is pure.
12. Check that the DY is not tilting, and fix the purity Mg with a white pen. Fix wedges with RTV.

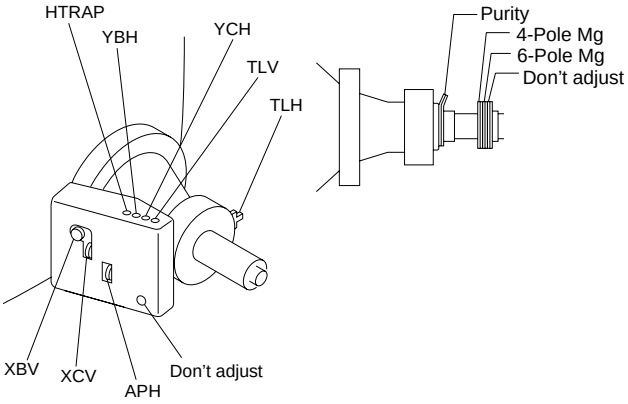
Connect the communication cable of the computer to the connector located on the D board or US board on the monitor. Run the service software and then follow the instruction.



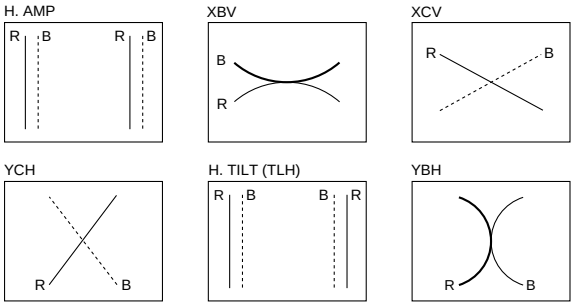
*The parts above (① ~ ③) are necessary for DAS adjustment.

- **Convergence Rough Adjustment**

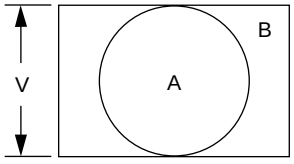
(1) Receive an image of the white crosshatch signals (white lines on black).
(2) Place the protrusions of the 6-fold poles magnet attached to the CRT neck upon each other. (Fig. 1)
(3) Make rough adjustment of the H and V direction convergence by using 4-fold poles magnet.



* Set so that the protruding parts of the 2 magnet rings agree with each other.



- **Convergence Specification**

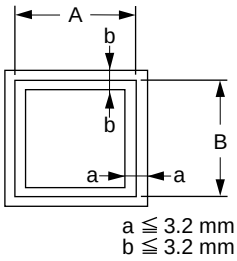


fH	60kHz ≦	60kHz>
A	0.24 mm	0.24 mm
B	0.24 mm	0.32 mm

- **White Balance Adjustment Specification**

1. COLOR INDEX=3
   x=0.283 ± 0.005
   y=0.298 ± 0.005
   (All White)
2. COLOR INDEX=2
   x=0.313 ± 0.005
   y=0.329 ± 0.005
   (All White)
3. COLOR INDEX=1
   x=0.346 ± 0.005
   y=0.359 ± 0.005
   (All White)

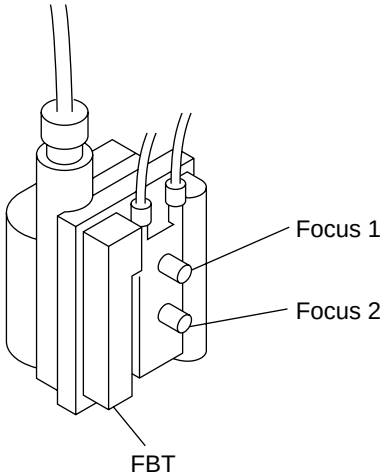
- **Vertical and Horizontal Position and Size Specification**



MODE	1~3	4
A	352 mm	330 mm
B	264 mm	264 mm

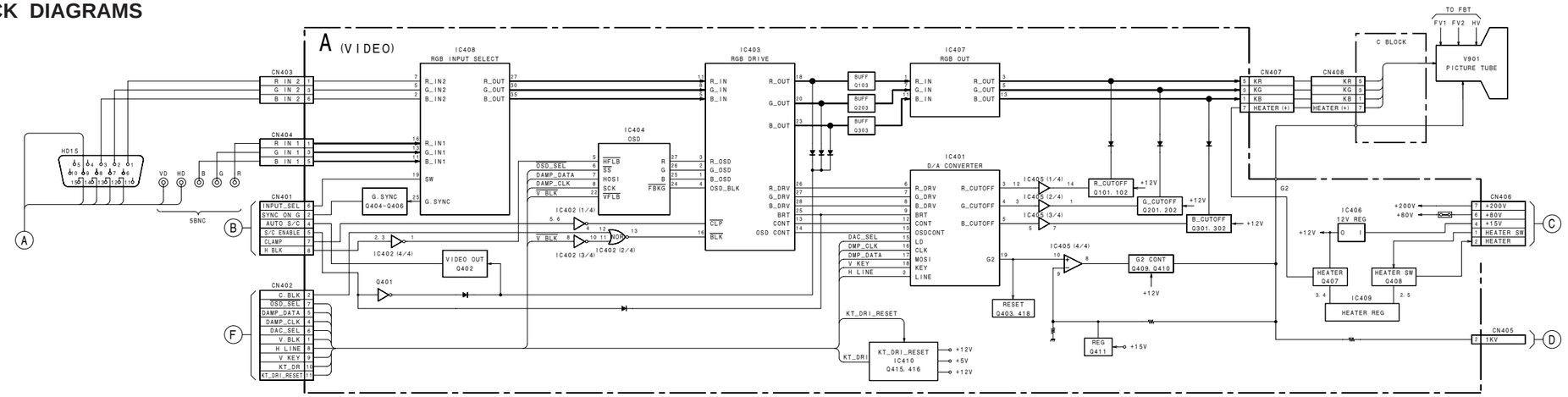
- **Focus adjustment**

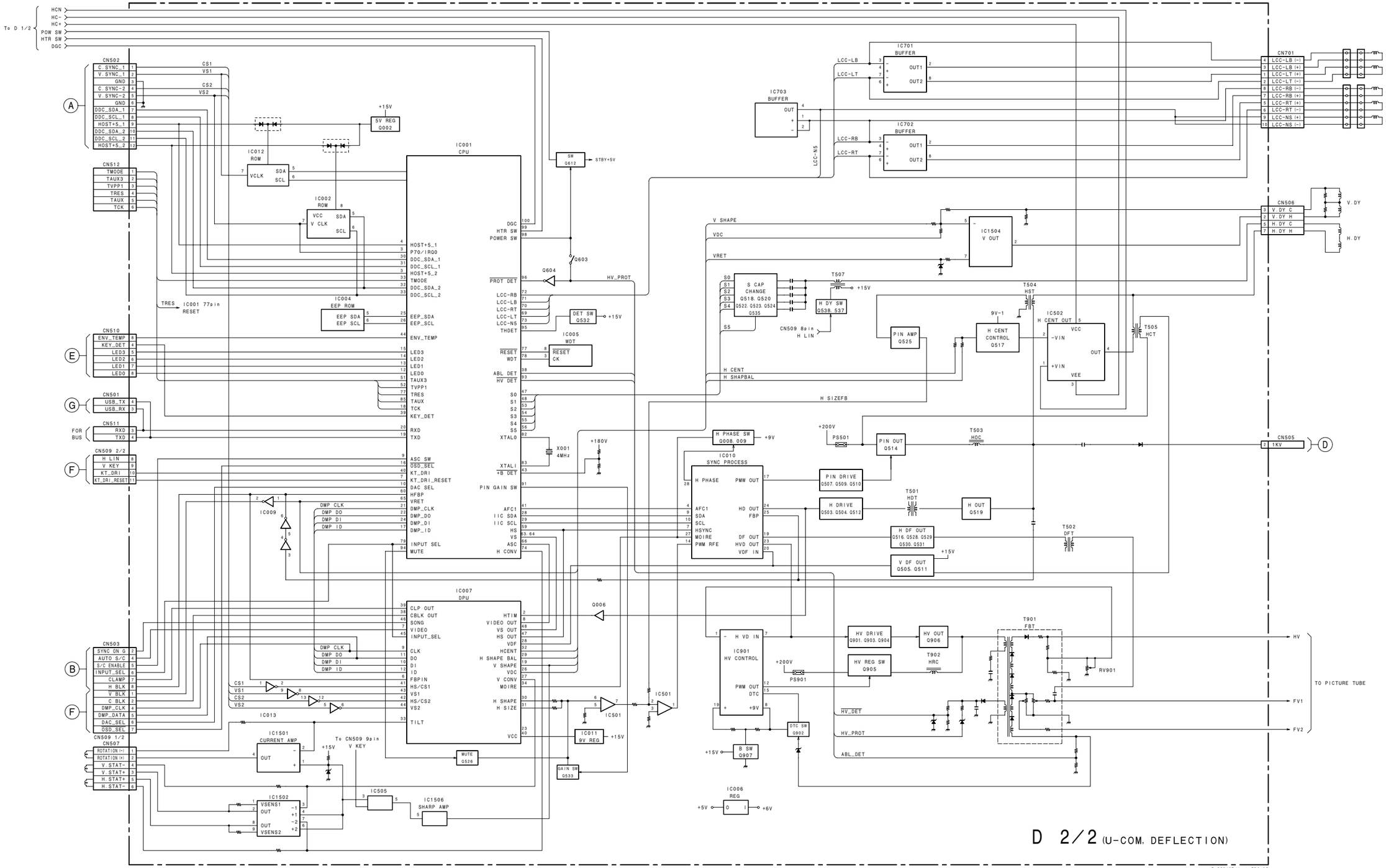
Adjust the focus volume 1 and 2 for the optimum focus.



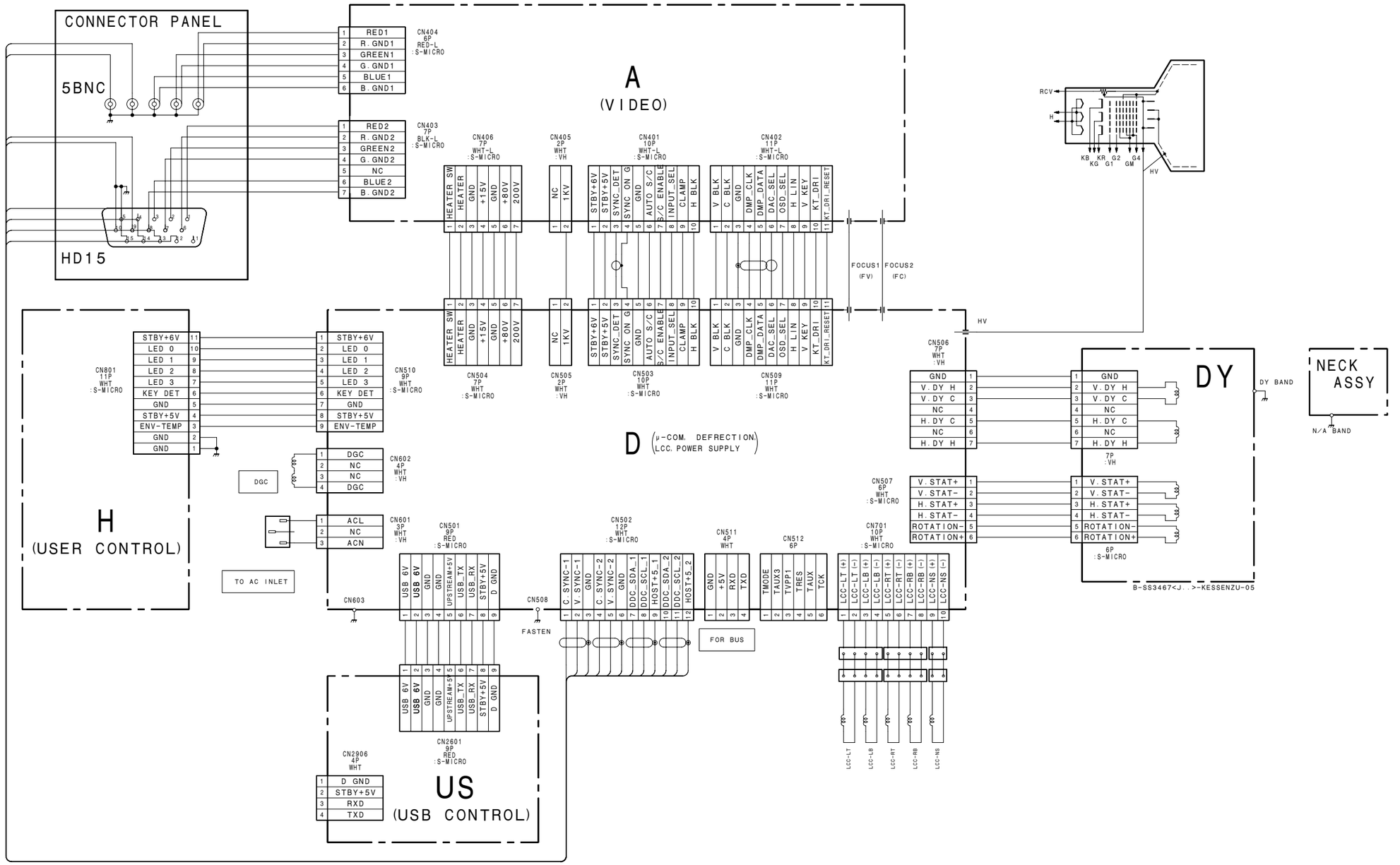
SECTION 5
DIAGRAMS

5-1. BLOCK DIAGRAMS

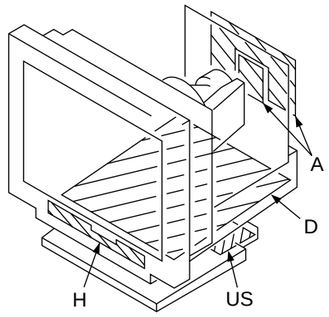



To D 1/2
HCN
HC-
HC+
POW SW
HTR SW
DGC
CN502
C_SYNC_1
V_SYNC_1
GND
C_SYNC-2
V_SYNC-2
GND
DDC_SDA_1
DDC_SCL_1
HOST+5_1
DDC_SDA_2
DDC_SCL_2
HOST+5_2
CS1
VS1
CS2
VS2
+15V
5V REG Q002
IC012 ROM
VCLK
SDA
SCL
IC002 ROM
VCC
V CLK
IC004 EEP ROM
EEP SDA
EEP SCL
TRES
IC001 77pin RESET
CN512
TMODE
TAUX3
TVPP1
TRES
TAUX
TCK
CN510
ENV_TEMP
KEY_DET
LED3
LED2
LED1
LED0
CN501
USB_TX
USB_RX
CN511
FOR BUS
RXD
TXD
CN509 2/2
H_LIN
V_KEY
KT_DRI
KT_DRI_RESET
IC001 CPU
HOST+5_1
P70/IRQ0
DDC_SDA_1
DDC_SCL_1
HOST+5_2
TMODE
DDC_SDA_2
DDC_SCL_2
EEP_SDA
EEP_SCL
ENV_TEMP
LED3
LED2
LED1
LED0
TAUX3
TVPP1
TRES
TAUX
TCK
KEY_DET
RXD
TXD
ASC_SW
OSD_SEL
KT_DRI
KT_DRI_RESET
DAC SEL
HFBP
VRET
DMP_CLK
DMP_DO
DMP_DI
DMP_ID
INPUT SEL
MUTE
DGC
HTR SW
POWER SW
PROT DET
LCC-RB
LCC-LB
LCC-RT
LCC-LT
LCC-N5
THDET
RESET
WDT
ABL_DET
HV_DET
S0
S1
S2
S3
S4
S5
XTAL0
XTAL1
+B DET
PIN GAIN SW
AFC1
IIC SDA
IIC SCL
HS
VS
ASC
H CONV
SW Q612
STBY+5V
Q603
Q604
HV_PROT
DET SW Q532
IC005 WDT
RESET
CK
X001 4MHz
+180V
IC009
DMP_CLK
DMP_DO
DMP_DI
DMP_ID
IC007 DPU
CLP OUT
CBLK OUT
SONG
VIDEO
INPUT_SEL
CLK
DO
DI
ID
FBPIN
HS/CS1
VS1
HS/CS2
VS2
TILT
HTIM
VIDEO OUT
VS OUT
HS OUT
VDF
HCENT
H SHAPE BAL
V SHAPE
VDC
V CONV
MOIRE
H SHAPE
H SIZE
VCC
MUTE Q526
GAIN SW Q533
IC501
IC011 9V REG
+15V
Q006
CN503
SYNC ON G
AUTO S/C
S/C ENABLE
INPUT_SEL
CLAMP
H BLK
V BLK
C BLK
DMP_CLK
DMP_DATA
DAC_SEL
OSD_SEL
IC013
CN509 1/2
CN507
ROTATION (-)
ROTATION (+)
V_STAT-
V_STAT+
H_STAT+
H_STAT-
IC1501 CURRENT AMP
To CN509 9pin V KEY
IC1502
VSENS1
VSENS2
IC505
IC1506 SHARP AMP
IC1504 V OUT
V_SHAPE
VDC
VRET
S CAP CHANGE Q518, Q520 Q522, Q523, Q524 Q535
T507
H DY SW Q538, 537
CN509 8pin H LIN
PIN AMP Q525
9V-1
H CENT CONTROL Q517
T504 HST
IC502 H CENT OUT
VCC
-VIN
+VIN
VEE
OUT
T505 HCT
H CENT
H SHAPBAL
H SIZEFB
IC701 BUFFER
IC702 BUFFER
IC703 BUFFER
LCC-LB
LCC-LT
LCC-RB
LCC-RT
LCC-N5
CN701
LCC-LB (-)
LCC-LB (+)
LCC-LT (+)
LCC-LT (-)
LCC-RB (-)
LCC-RB (+)
LCC-RT (+)
LCC-RT (-)
LCC-NS (+)
LCC-NS (-)
LT
LB
RT
RB
NS
CN506
V.DY C
V.DY H
H.DY C
H.DY H
V.DY
H.DY
H PHASE SW Q008, 009
+9V
IC010 SYNC PROCESS
H PHASE
AFC1
SDA
SCL
HSYNC
MOIRE
PWM RFE
PWM OUT
HD OUT
FBP
DF OUT
HVD OUT
VDF IN
+200V
PS501
PIN OUT Q514
T503 HOC
CN505 1KV
PIN DRIVE Q507, Q509, Q510
H DRIVE Q503, Q504, Q512
T501 HDT
H OUT Q519
H DF OUT Q516, Q528, Q529 Q530, Q531
T502 DFT
V DF OUT Q505, Q511
+15V
IC1503 H VD IN
IC901 HV CONTROL
PWM OUT
DTC
+9V
HV DRIVE Q901, Q903, Q904
HV OUT Q906
T902 HRC
HV REG SW Q905
+200V
PS901
T901 FBT
RV901
HV
FV1
FV2
TO PICTURE TUBE
HV_DET
HV_PROT
ABL_DET
DTC SW Q902
B SW Q907
IC006 REG
+5V
+6V
D 2/2 (U-COM, DEFLECTION)
B-SS3467-J..-BD2-05

5-2. FLAME SCHEMATIC DIAGRAM



5-3. CIRCUIT BOARDS LOCATION



5-4. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

Note:

- All capacitors are in µF unless otherwise noted. (pF: µµF) Capacitors without voltage indication are all 50 V.
- Indication of resistance, which does not have one for rating electrical power, is as follows.

  Pitch: 5 mm
  Rating electrical power 1/4 W (CHIP : 1/10 W)

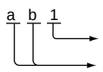
- All resistors are in ohms.
- : nonflammable resistor.
- : fusible resistor.
- △ : internal component.
- : panel designation, and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- : earth-ground.
- : earth-chassis.
- The components identified by ⋈ in this basic schematic diagram have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation.
  Should replacement be required, replace only with the value originally used.
- When replacing components identified by ◪, make the necessary adjustments indicated. (See page 3-1)
- When replacing the part in below table, be sure to perform the related adjustment.

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Note: Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

- All voltages are in V.
- Readings are taken with a 10 M digital multimeter.
- Readings are taken with a color-bar signal input.
- Voltage variations may be noted due to normal production tolerances.
- ∗ : Can not be measured.
- Circled numbers are waveform references.
- : B + bus.
- : B – bus.

- Divided circuit diagram
  One sheet of D board circuit diagram is divided into four sheets, each having the code D-ⓐ to D-ⓓ. For example, the destination ⓐb1 on the code D-ⓐ sheet is connected to ⓐb1 on the D-ⓑ sheet.



	Part Replaced (⋈)
HV ADJ	RV901

	Part Replaced (◪)	
HV Regulator Circuit Check	D Board	T901 (FBT), IC901, R903, R922, RV901 • Mounted D board
HV Protector Circuit Check	D Board	T901 (FBT), R927, R920, C923, D913, D916, R935, R936 • Mounted D board
Beam Current Protector Circuit Check	D Board	R933, R932, R934, R923, R928, R939, R918, R053, IC901, D918, D901, D902, T901 (FBT) • Mounted D board

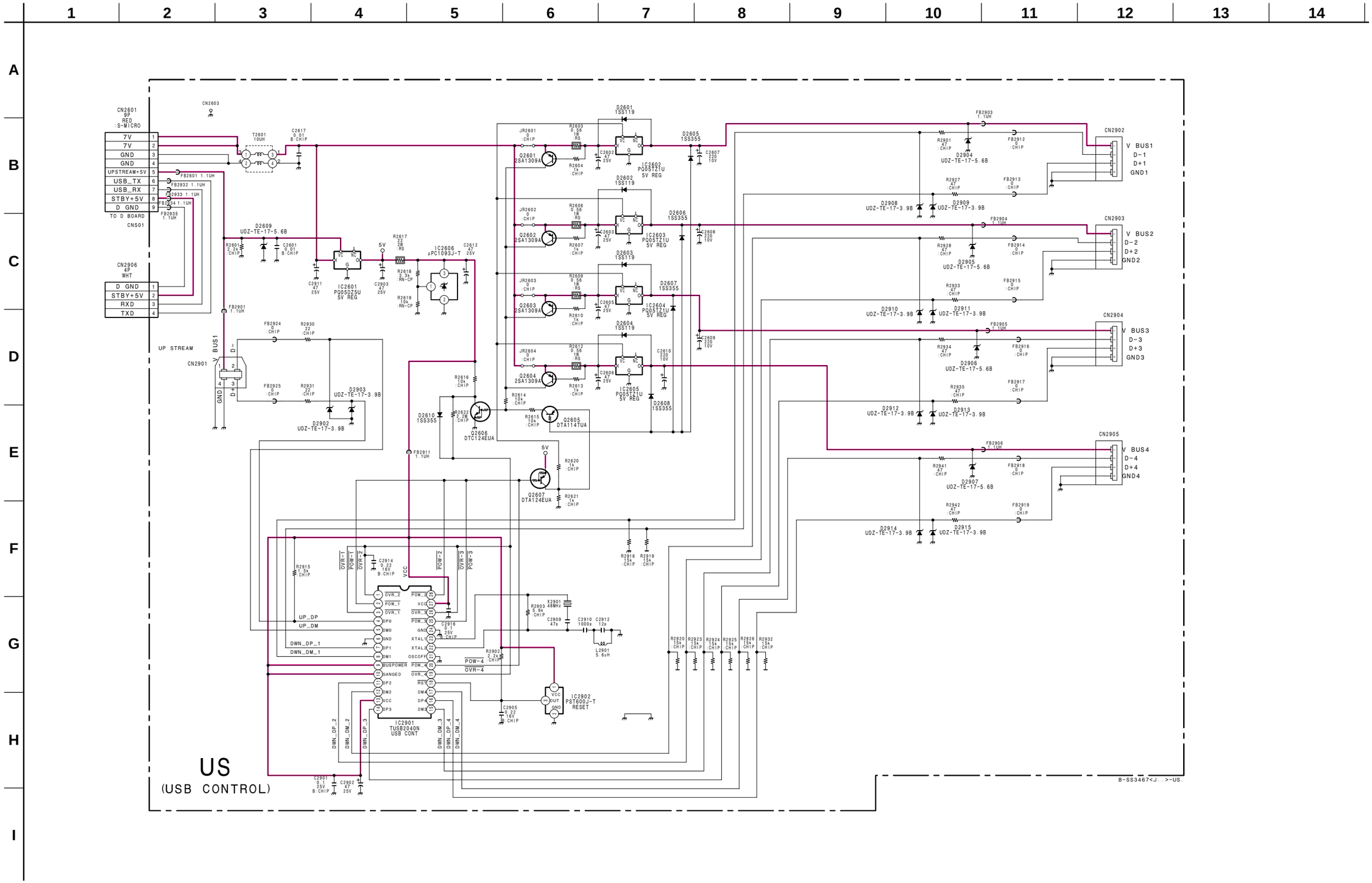
Terminal name of semiconductors in silk screen printed circuit (∗)

	Device	Printed symbol	Terminal name	Circuit
①	Transistor	T	Collector / Base / Emitter	
②	Transistor	—	Collector / Base / Emitter	
③	Diode	⊓	Cathode / Anode	
④	Diode	T	Cathode / Anode / (NC)	
⑤	Diode	—	Cathode / Anode / (NC)	
⑥	Diode	T	Common / Anode / Cathode	
⑦	Diode	—	Common / Anode / Cathode	
⑧	Diode	T	Common / Anode / Anode	
⑨	Diode	—	Common / Anode / Anode	
⑩	Diode	T	Common / Cathode / Cathode	
⑪	Diode	—	Common / Cathode / Cathode	
⑫	Diode	∥	Anode Cathode / Anode Anode / Cathode Anode	
⑬	Transistor (FET)	∥	Drain / Source / Gate	
⑭	Transistor (FET)	⊢	Drain / Source / Gate	
⑮	Transistor (FET)	∥	Source / Drain / Gate	
⑯	Transistor	∥	Emitter / Collector / Base	
—	Discrete semiconductot			

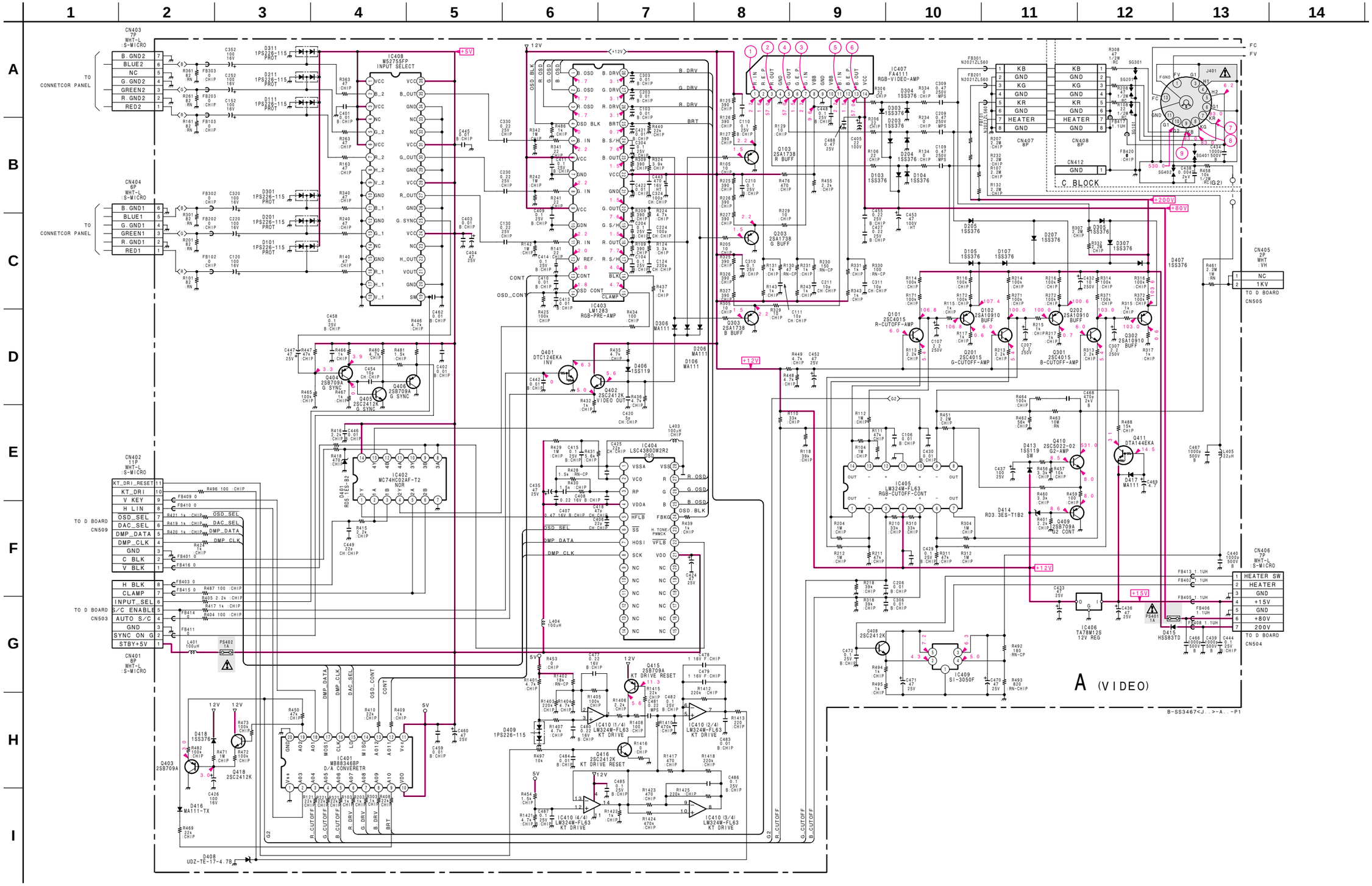
(Chip semiconductors that are not actually used are included.)

Ver.1.5

(1) Schematic Diagram of US Board

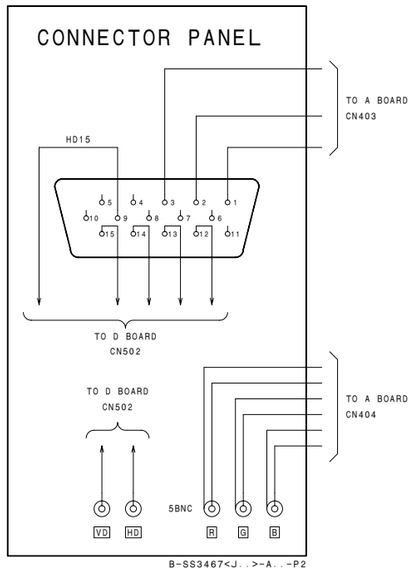


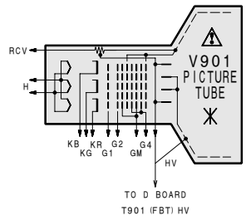
(2) Schematic Diagram of A Board



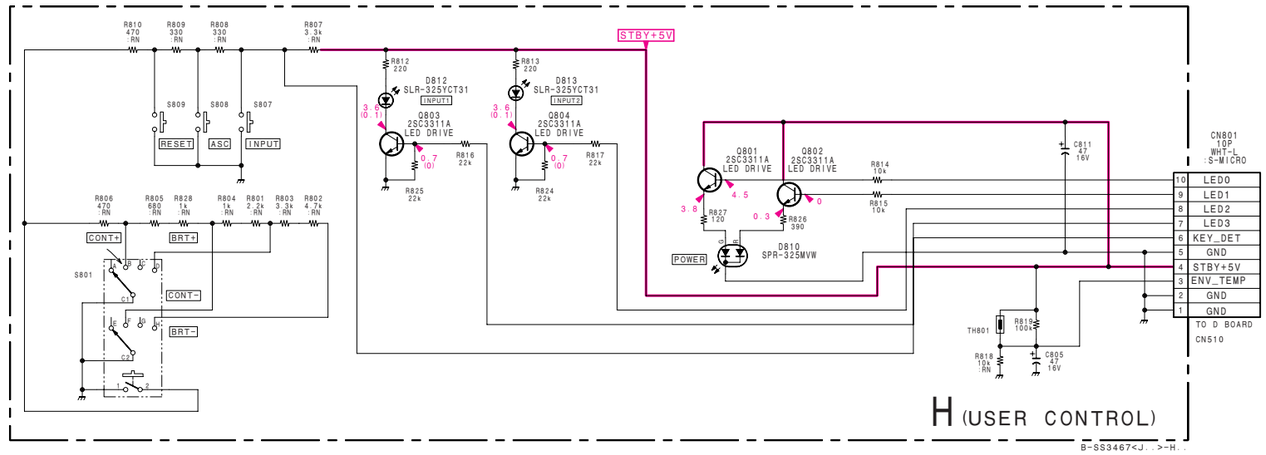
Schematic diagram
← US board

Schematic diagrams
A boards →





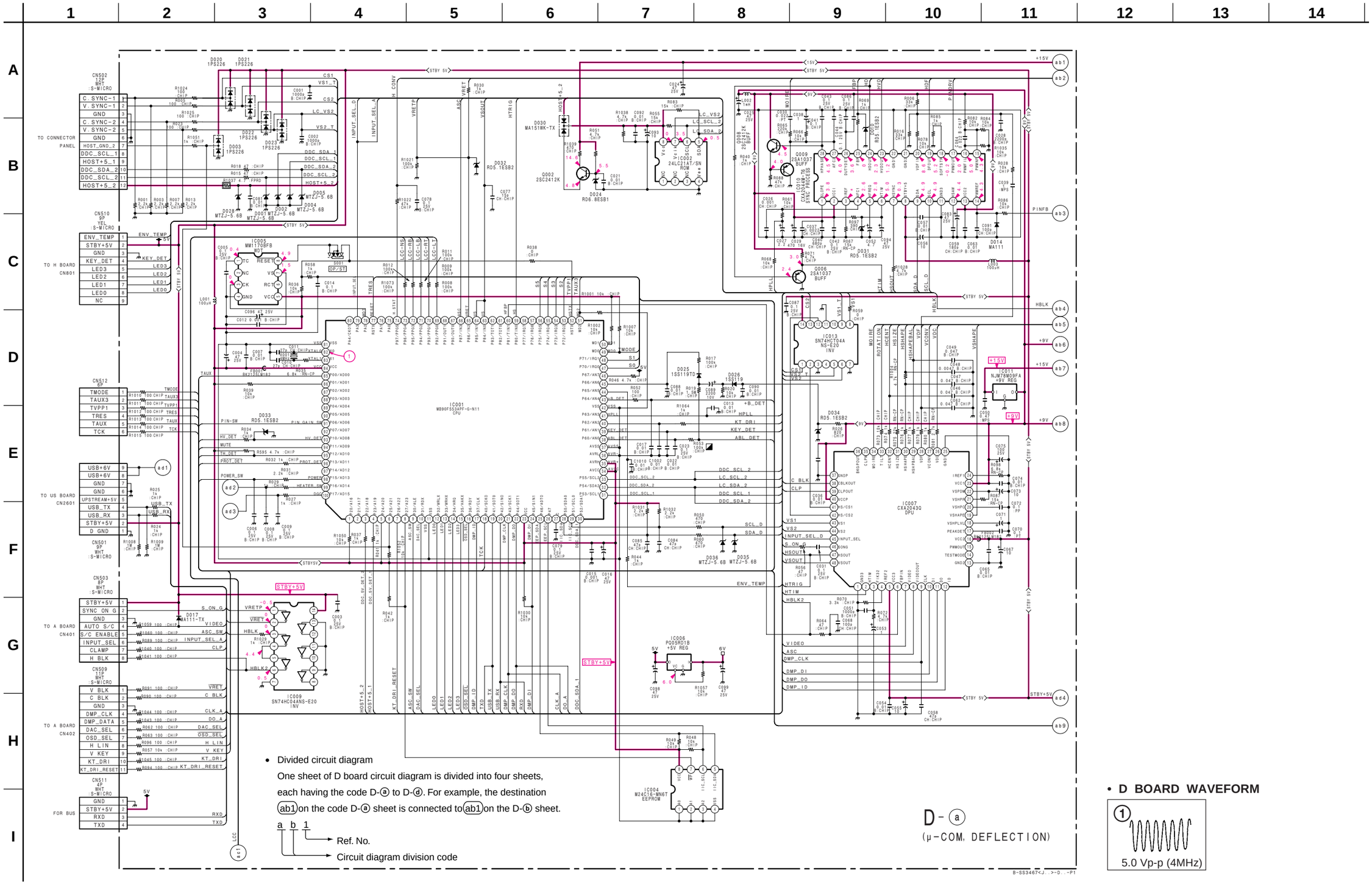
(3) Schematic Diagram of H Board



• **A BOARD WAVEFORMS**

① 4.0 Vp-p (H)	② 50.0 Vp-p (H)	③ 4.0 Vp-p (H)
④ 50.0 Vp-p (H)	⑤ 4.0 Vp-p (H)	⑥ 50.0 Vp-p (H)
⑦ 50.0 Vp-p (H)	⑧ 50.0 Vp-p (H)	⑨ 50.0 Vp-p (H)

(4) Schematic Diagram of D (ⓐ, ⓑ, ⓒ, ⓓ) Board


1 2 3 4 5 6 7 8 9 10 11 12 13 14
A B C D E F G H I
TO CONNECTOR PANEL
TO H BOARD CN801
TO US BOARD CN2601
TO A BOARD CN401
TO A BOARD CN402
FOR BUS
IC1001 MB90F553APF-G-N11 CPU
IC1002 24LC21AT/SN ROM
IC1003 CXA2075 SYNC PROCESS
IC1004 M24C16-MN6T EEPROM
IC1005 MM1709FB WDT
IC1006 PQ05RD1B +5V REG
IC1007 CXA2043Q DPU
IC1009 SN74HC04NS-E20 INV
IC1011 NJM78M09FA +9V REG
IC1013 SN74HC704A NS-E20 INV
• Divided circuit diagram
One sheet of D board circuit diagram is divided into four sheets, each having the code D-ⓐ to D-ⓓ. For example, the destination ab1 on the code D-ⓐ sheet is connected to ab1 on the D-ⓑ sheet.
a b 1
Ref. No.
Circuit diagram division code
D - ⓐ
(μ-COM, DEFLECTION)
B-SS3467<J...>-D...-P1

• **D BOARD WAVEFORM**

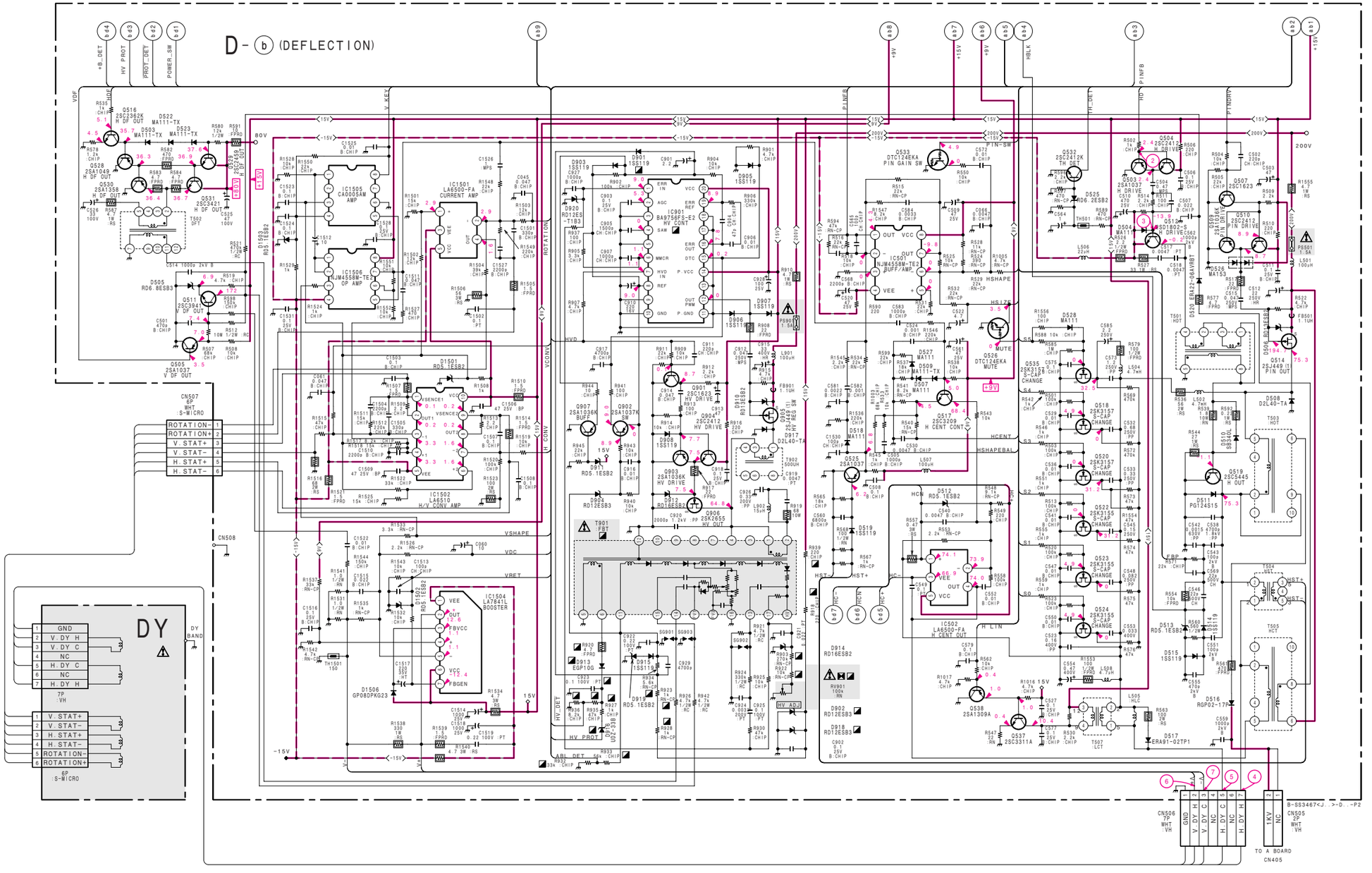
① 5.0 Vp-p (4MHz)

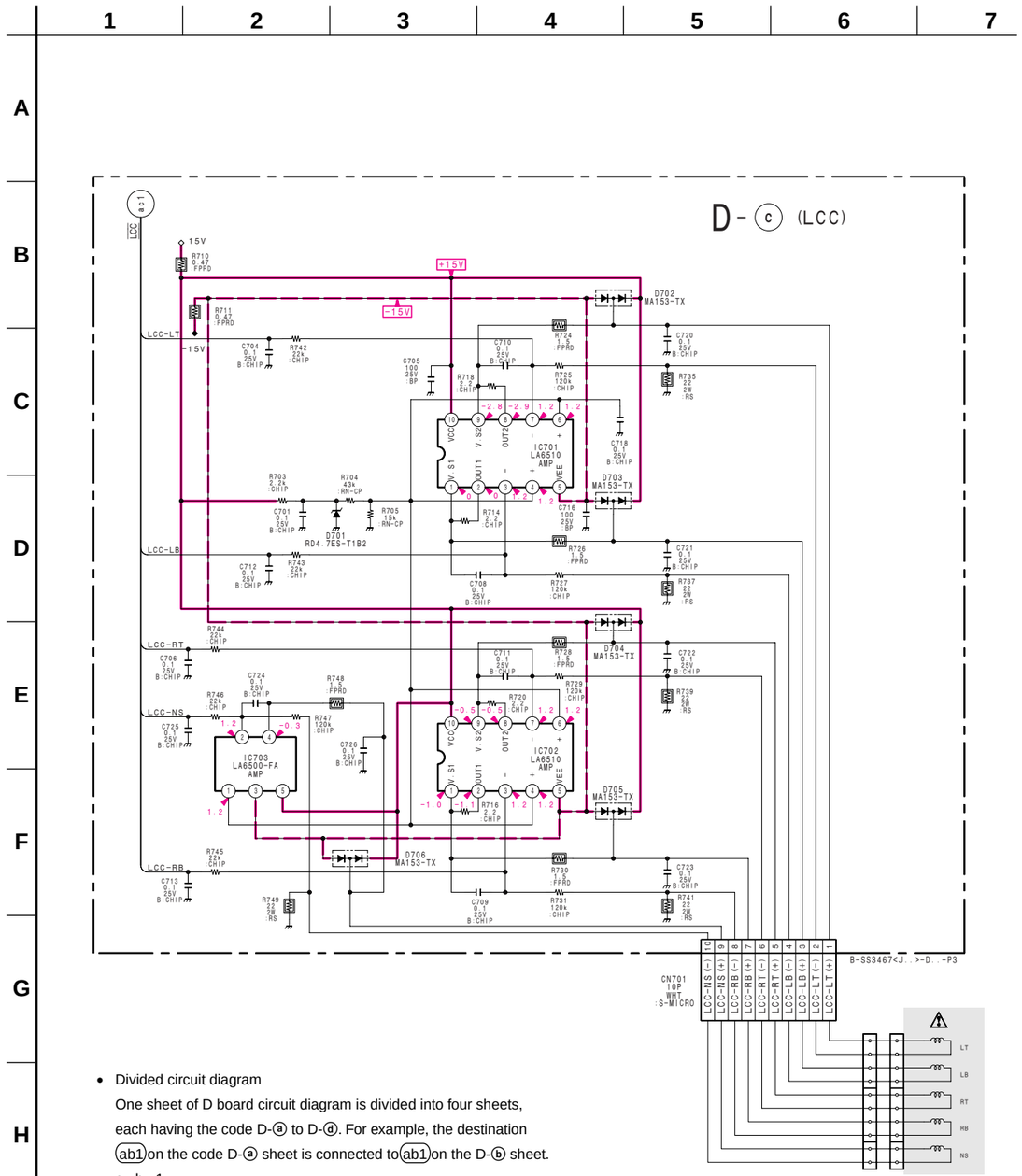
- Divided circuit diagram
  One sheet of D board circuit diagram is divided into four sheets, each having the code D-ⓐ to D-ⓓ. For example, the destination ab1 on the code D-ⓐ sheet is connected to ab1 on the D-ⓑ sheet.

a b 1
- Ref. No.
- Circuit diagram division code

- **D BOARD WAVEFORMS**

②	③	④	⑤	⑥	⑦
4.5 Vp-p (H)	2.0 Vp-p (H)	600 Vp-p (H)	80.0 Vp-p (H)	50.0 Vp-p (V)	1.0 p-p (V)

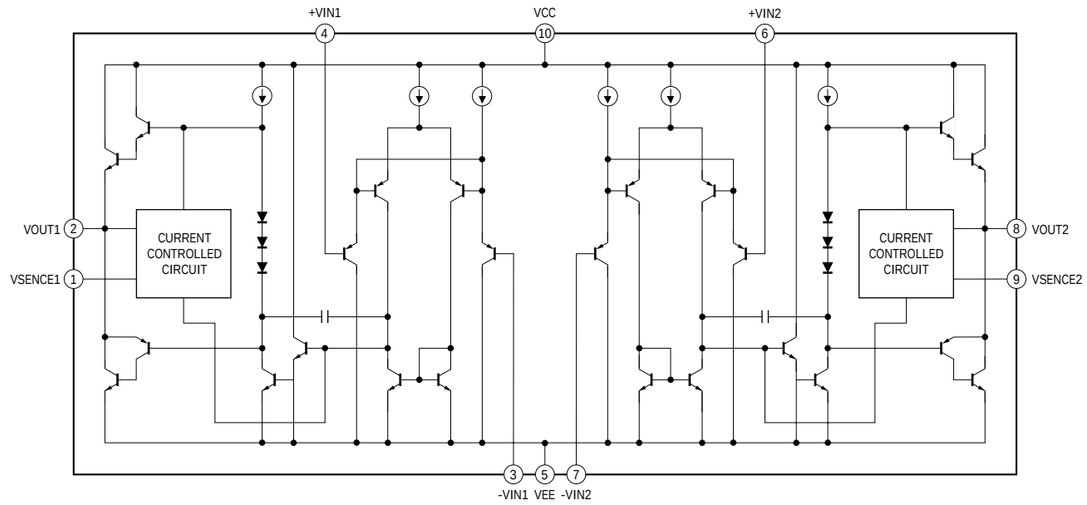


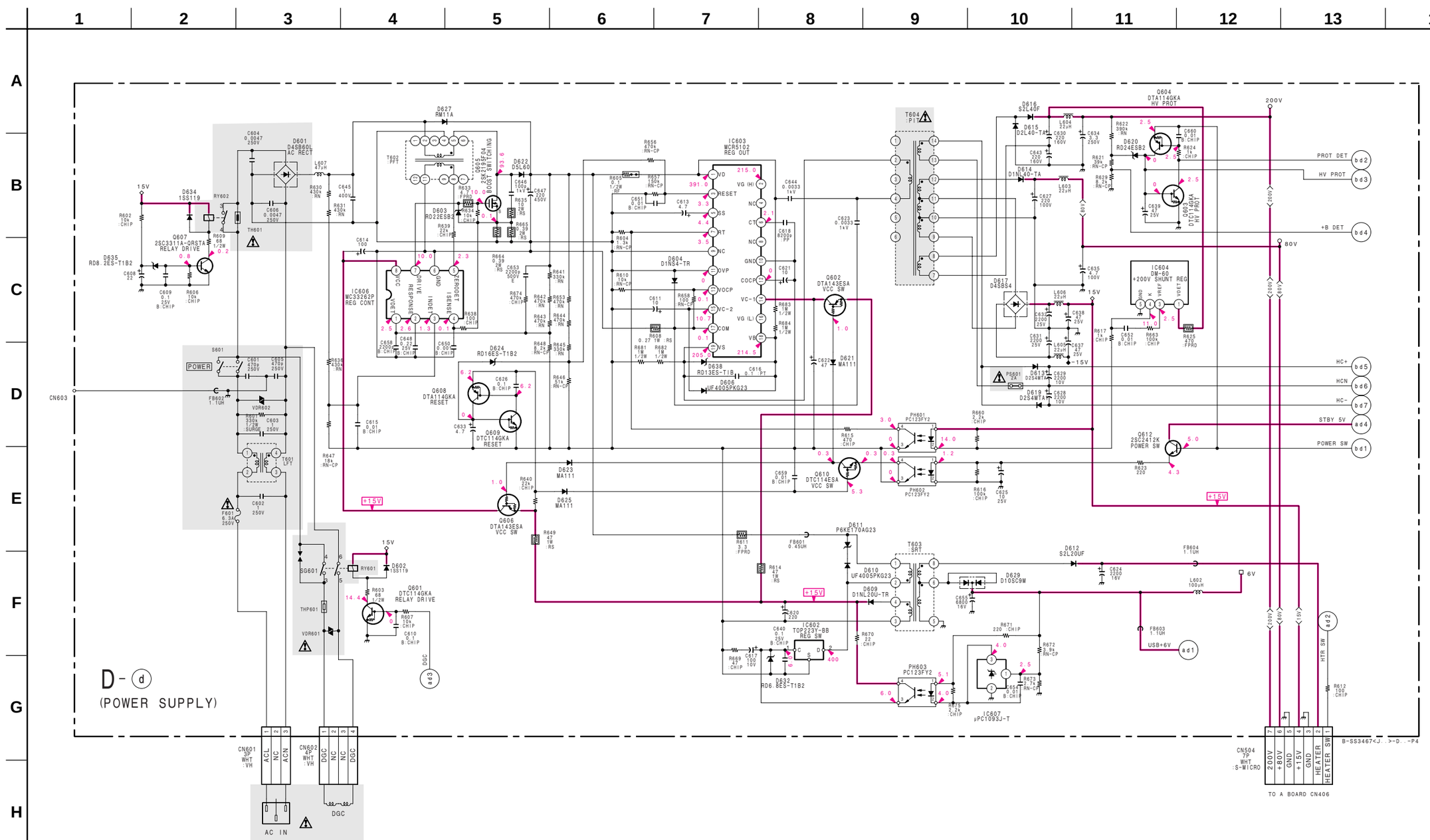


- Divided circuit diagram
  One sheet of D board circuit diagram is divided into four sheets, each having the code D-ⓐ to D-ⓓ. For example, the destination (ab1) on the code D-ⓐ sheet is connected to (ab1) on the D-ⓑ sheet.

  a b 1
  - 1 → Ref. No.
  - b → Circuit diagram division code

- D-ⓒ BOARD IC701, IC702 LA6510



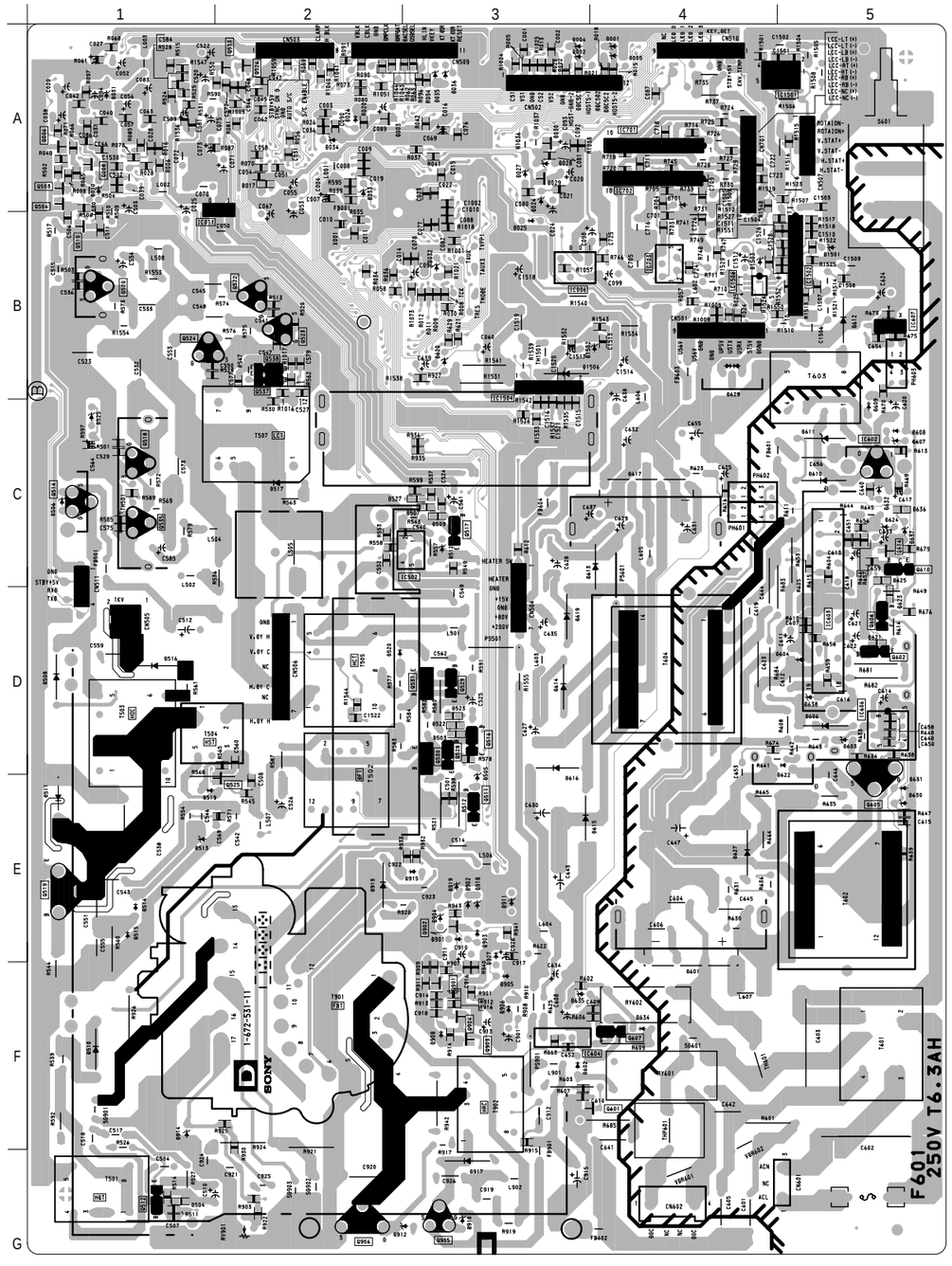


- Divided circuit diagram
  One sheet of D board circuit diagram is divided into four sheets, each having the code D-ⓐ to D-ⓓ. For example, the destination ⓐb1 on the code D-ⓐ sheet is connected to ⓐb1 on the D-ⓑ sheet.

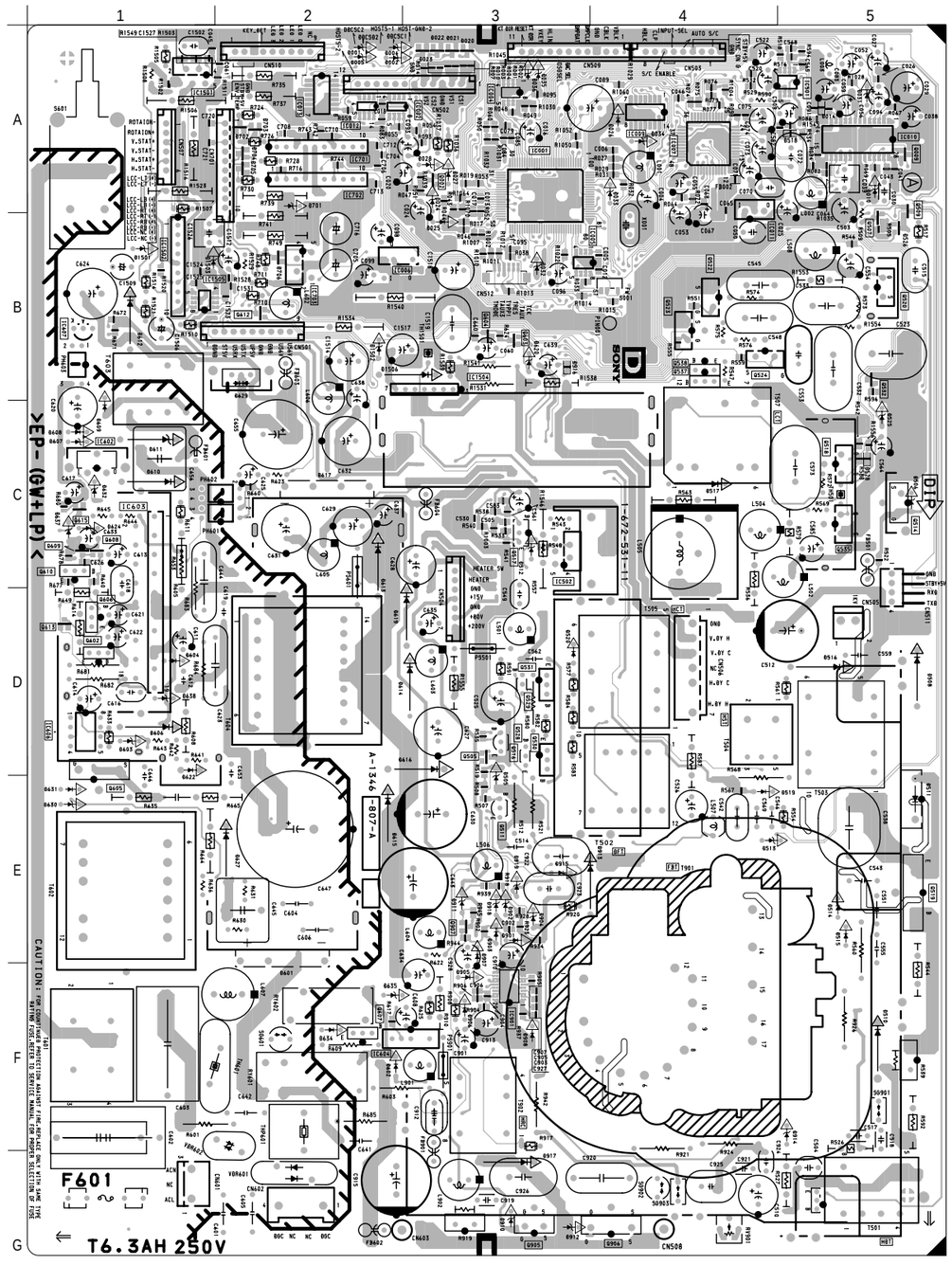
  a b 1
  - 1 → Ref. No.
  - a b → Circuit diagram division code

D [µ-COM, DEFLECTION, LCC, POWER SUPPLY]

— D BOARD (Conductor Side) —



— D BOARD (Component Side) —



NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

Schematic diagrams

← D-ⓓ board

• D BOARD SEMICONDUCTOR LOCATION

IC

	(Conductor Side)	(Component Side)
IC001		A–3
IC002		A–2
IC004		A–3
IC005		B–3
IC006	B–3	B–2
IC007		A–4
IC009		A–4
IC010		A–5
IC011	A–2	A–4
IC013		A–2
IC501		A–5
IC502	C–3	C–3
IC602	C–5	C–1
IC603	D–5	D–1
IC604	F–3	F–3
IC606	D–5	D–1
IC607	B–5	B–1
IC701	A–4	A–2
IC702	A–4	A–2
IC703	B–4	B–2
IC901		F–3
IC1501	A–5	A–1
IC1502	B–5	B–1
IC1504	B–3	B–3
IC1505		B–1
IC1506	B–4	

TRANSISTOR

	(Conductor Side)	(Component Side)	✻
Q002		A–3	②
Q006	A–1		①
Q008	A–1		①
Q009		A–5	②
Q503	A–1		①
Q504	A–1		①
Q505		D–3	②
Q507		B–5	②
Q509		A–5	①
Q510	B–1		①
Q511	E–3	E–3	–
Q512	G–1	G–5	–
Q514	C–1	C–5	–
Q516	D–3	D–3	–
Q517	C–3	C–3	–
Q518	C–1	C–5	–
Q519	E–1	E–5	–
Q520	B–1	B–5	–
Q522	B–2	B–4	–
Q523	B–2	B–4	–
Q524	B–2	B–4	–
Q525	E–2		①
Q526	A–2		①
Q528	D–3	D–3	–
Q529	D–3	D–3	–
Q530	D–3	D–3	–
Q531	D–3	D–3	–
Q532		B–5	②
Q533	A–2		①
Q535	C–1	C–5	–
Q537	B–2	B–4	–
Q538	B–2	B–4	–
Q601	F–4		①
Q602	D–5	D–1	–
Q603		B–3	②
Q604		B–3	②
Q605	E–5	E–1	–
Q606	D–5	D–1	–
Q607	F–4	F–2	–
Q608		C–1	②
Q609		C–1	②
Q610	C–5	C–1	–
Q612		B–2	②
Q901	F–3		①
Q902	E–3		①
Q903	F–3		①
Q904	F–3		①
Q905	G–3	G–3	–
Q906	G–2	G–4	–
Q907		E–3	②

DIODE

	(Conductor Side)	(Component Side)	✻
D001	A–4	A–2	–
D002	A–3	A–2	–
D003	A–2		⑥
D004	A–3	A–2	–
D005	A–4	A–2	–
D010	A–1	A–5	–
D014		A–5	③
D017	A–2		③
D020		A–3	⑥
D021		A–3	⑥
D022		A–3	⑥
D023		A–3	⑥
D024	A–3	A–3	–
D025	B–3	B–3	–
D026	A–2	A–4	–
D028	A–3	A–3	–
D030	A–3		⑧
D031	A–1	A–5	–
D032	B–3	B–3	–
D033	A–2	A–4	–
D034	A–2	A–4	–
D035	A–3	A–3	–
D036	A–3	A–3	–
D503	D–3		③
D504	G–1		③
D505	E–3	E–3	–
D506	C–1	C–5	–
D507	C–3		③
D508	D–1	D–5	–
D509	C–3		③
D510	F–1	F–5	–
D511	E–1	E–5	–
D512	C–3	C–3	–
D513	E–1	E–4	–
D514	E–1	E–5	–
D515	E–1	E–5	–
D516	D–1	D–5	–
D517	C–2	C–4	–
D518		A–5	③
D519	E–1	E–4	–
D520	D–2	D–3	–
D522	D–3		③
D523	D–3		③
D525	C–1	C–5	–
D526		B–5	⑦
D527	C–3		③
D528		C–5	③
D601	E–4	E–2	–
D602	F–3	F–2	–
D603	D–5	D–1	–
D604	D–5	D–1	–
D606	D–5	D–1	–
D609	C–5	C–1	–
D610	C–5	C–1	–
D611	C–5	C–1	–
D612	B–5	B–1	–
D613	C–4	C–2	–
D614	D–3	D–3	–
D615	E–3	E–2	–
D616	D–3	D–3	–
D617	C–4	C–2	–
D619	D–3	D–3	–
D620	B–3	B–3	–
D621	D–5		③
D622	D–5	D–1	–
D623	D–5		③
D624	C–5	C–1	–
D625	C–5		③
D627	E–4	E–2	–
D629	B–4	B–2	–
D632	C–5	C–1	–
D634	F–4	F–2	–
D635	F–3	F–2	–
D638	D–5	D–1	–
D701	A–4	A–2	–
D702		A–2	⑦
D703		A–3	⑦
D704		A–2	⑦
D705		A–2	⑦
D706		B–2	⑦
D901	E–3	E–3	–
D902	E–3	E–3	–
D903	E–3	E–3	–
D904	E–3	E–3	–
D905	F–3	F–3	–
D906	F–3	F–3	–
D907	E–3	E–3	–
D908	F–3	F–3	–
D910	G–3	G–3	–
D911	E–3	E–3	–
D912	G–2	G–3	–
D913	E–2	E–4	–
D914	F–1	F–5	–
D915	E–3	E–3	–
D916		B–3	③
D917	G–3	G–3	–
D918	E–3	E–3	–
D919	E–3	E–3	–
D1501	B–5	B–1	–
D1502	B–4	B–2	–
D1503	B–4	B–1	–
D1506	B–3	B–3	–

VARIABLE RESISTOR

	(Conductor Side)	(Component Side)
RV901	G–2	G–4

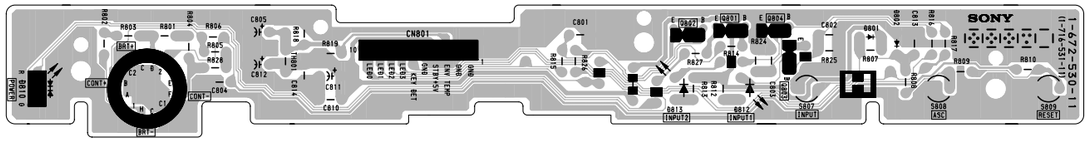
CRYSTAL

	(Conductor Side)	(Component Side)
X001		B–4

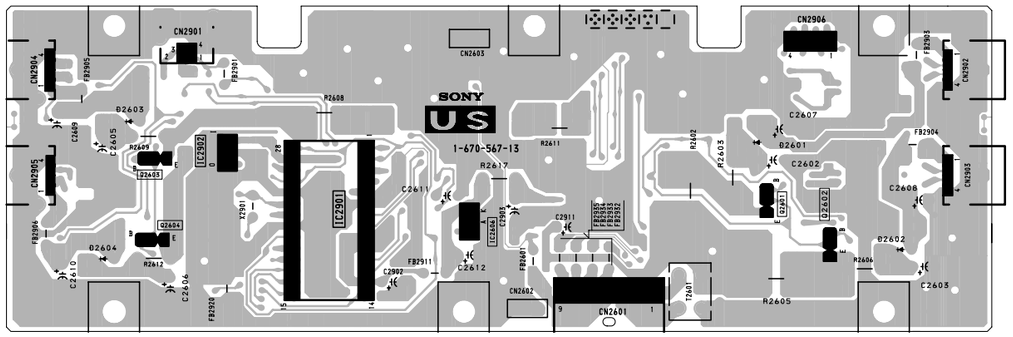
✻: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-8)

H [USB CONTROL]　US [USB CONTROL]

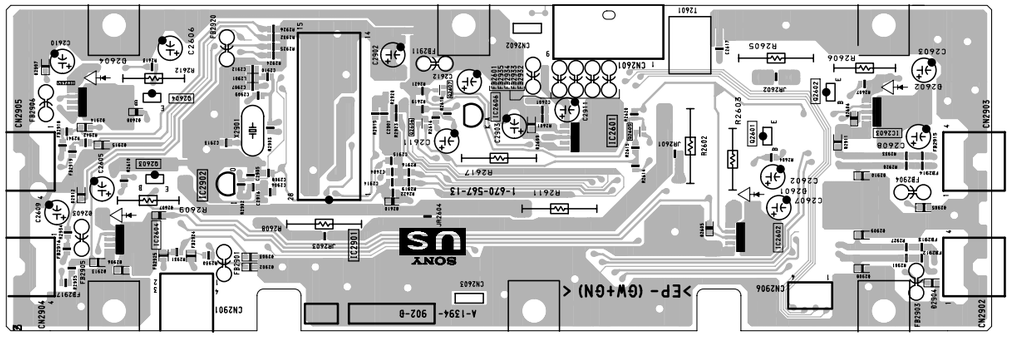
— H BOARD —



— US BOARD (Conductor Side) —



— US BOARD (Component Side) —



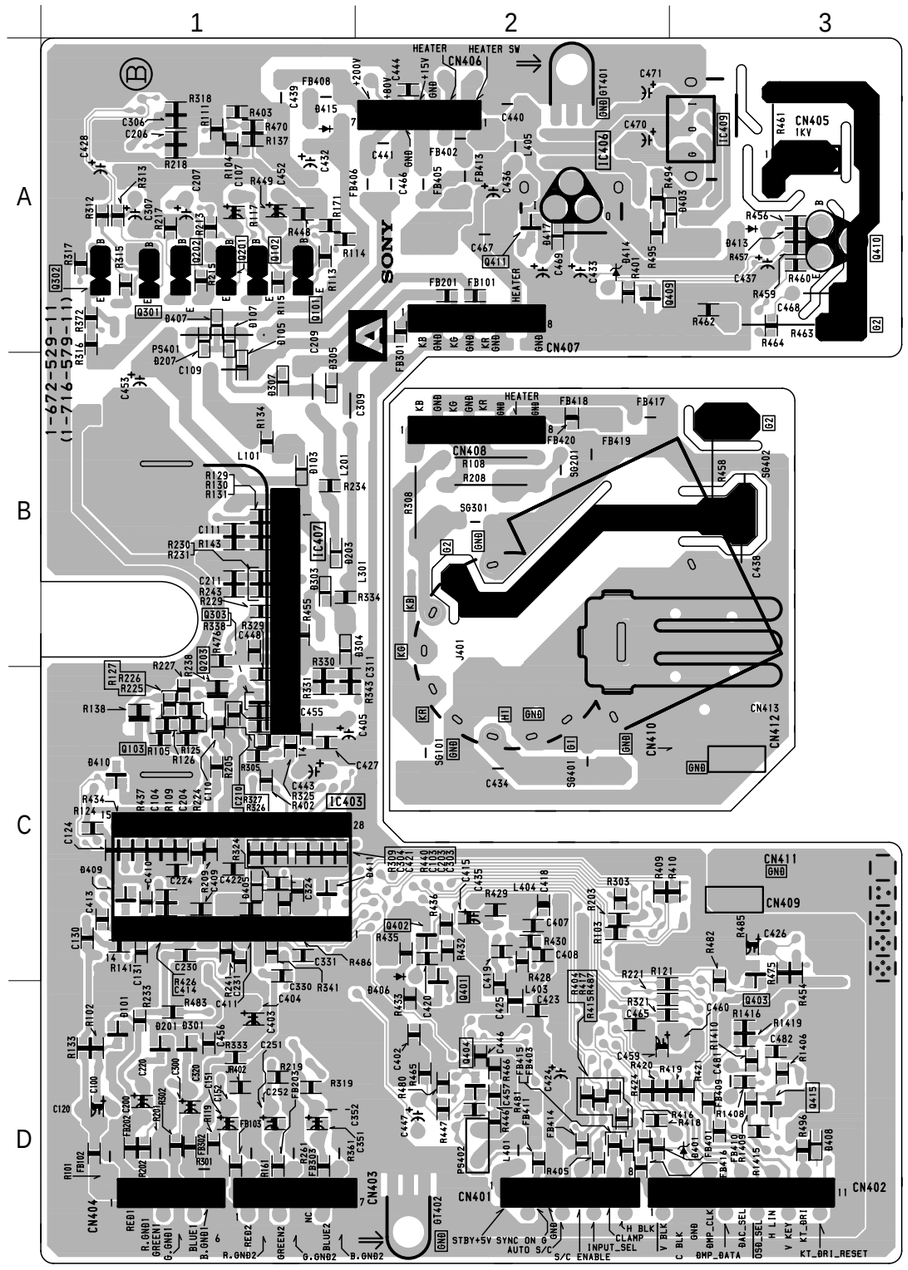
US BOARD
Terminal name of semiconductors in silk screen printed circuit (✻)

Ref.	✻
Q2605, Q2606, Q2607	②
D2605 – D2610, D2902 – D2915	③

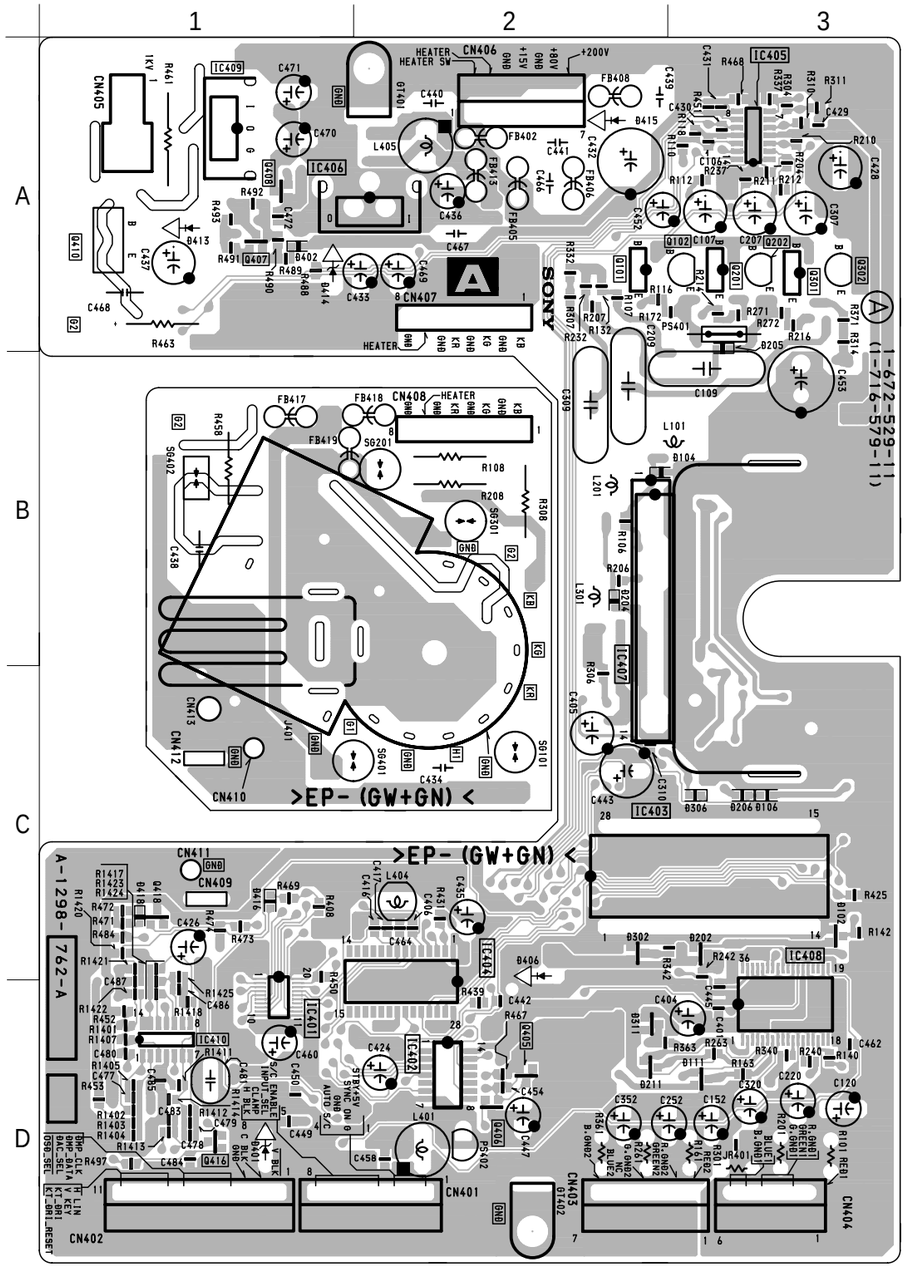
✻: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-8)

A [VIDEO]

— A BOARD (Conductor Side) —



— A BOARD (Component Side) —



- **A BOARD SEMICONDUCTOR LOCATION**

IC

	(Conductor Side)	(Component Side)
IC401		D–1
IC402		D–2
IC403	C–1	C–3
IC404		C–2
IC405		A–3
IC406	A–2	A–2
IC407	B–1	B–2
IC408		D–3
IC409	A–3	A–1
IC410		D–1

TRANSISTOR

	(Conductor Side)	(Component Side)	✱
Q101	A–1	A–2	–
Q102	A–1	A–3	–
Q103	C–1		①
Q201	A–1	A–3	–
Q202	A–1	A–3	–
Q203	C–1		①
Q301	A–1	A–3	–
Q302	A–1	A–3	–
Q303	C–1		①
Q401	C–2		①
Q402	C–2		①
Q403	D–3		①
Q404	D–2		①
Q405		D–2	②
Q406		D–2	②
Q408		A–1	②
Q409	A–2		①
Q410	A–3	A–1	–
Q411	A–2		①
Q415	D–3		①
Q416		D–1	②
Q418		C–1	②

DIODE

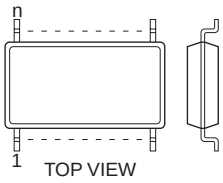
	(Conductor Side)	(Component Side)	✱
D101	D–1		⑥
D103	B–1		③
D104		B–2	③
D105	B–1		③
D106		C–3	③
D107	A–1		③
D111		D–3	⑥
D201	D–1		⑥
D203	B–1		③
D204		B–2	③
D205		A–3	③
D206		C–3	③
D207	A–1		③
D211		D–2	⑥
D301	D–1		⑥
D303	B–1		③
D304	B–1		③
D305	B–1		③
D306		C–3	③
D307	B–1		③
D311		D–2	⑥
D401	D–3	D–1	–
D406	C–2	C–2	–
D407	A–1		③
D408	D–3		③
D409	C–1		⑥
D413	A–3	A–1	–

✱: Refer to Terminal name of semiconductors in silk screen printed circuit (see page 5-8)

NOTE:
The circuit indicated as left contains high voltage of over 600 Vp-p. Care must be paid to prevent an electric shock in inspection or repairing.

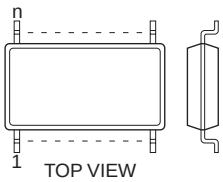
5-5. SEMICONDUCTORS

BA9756FS-E2
MB88346BPFV



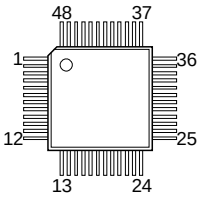
20 pin SOP

CA0005AM-TP
NJM4558M
µPC4558G2
24LC21AT/SN



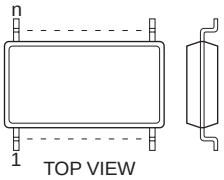
8 pin SOP

CXA2043Q



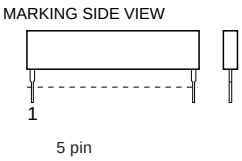
TOP VIEW

CXA2044M-T6
LSC4380DW2R2



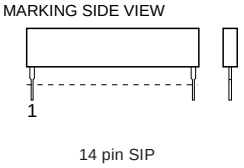
28 pin SOP

DM-60



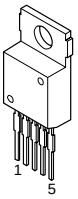
5 pin

FA4111

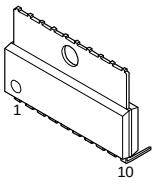


14 pin SIP

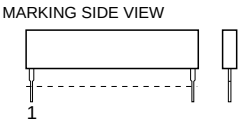
LA6500-FA



LA6510

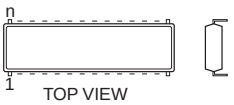


LA7841L



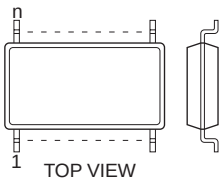
7 pin SIP

LM1283N
TUSB2040N



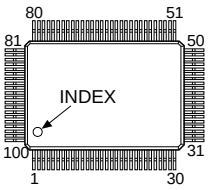
28 pin DIP

LM324M
SN74HC02ANS
SN74HC04ANS
SN74HCT04ANS

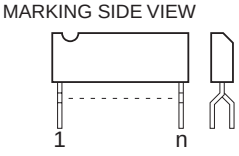


14 pin SOP

MB90F553APF-G-N11

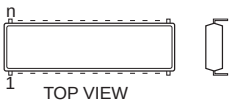


MCR5102



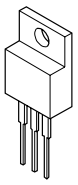
19 pin ZIP

MC33262P
MM1170BFB
M24C16-MN6T

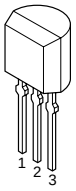


8 pin DIP

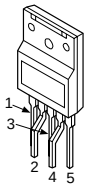
NJM78M09FA
TA78M12S



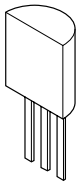
PST600J-T



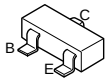
SI-3050F



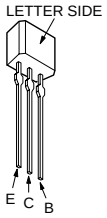
µPC1093J



DTA114GKA-T146
DTA114TUA-T106
DTA124EUA-T106
DTA143ESA-TP
DTA144EKA-T146
DTC114GKA
DTC124EK
DTC124EUA-T106
2SA1036K-Q
2SA1162-G
2SA1462-Y33
2SC1623-L5L6



DTC114ESA
2SA1175-HFE
2SC2784-E
2SC2785-HFE



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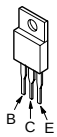
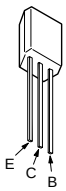
2SJ449



2SA1049-GR



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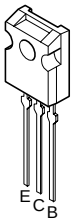
2SC2362K-G
2SC3941A-Q (TA)

2SA1358-Y
2SC3421-Y



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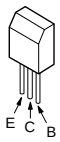

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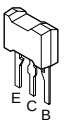

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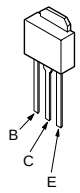

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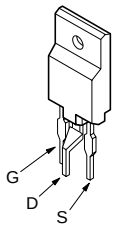

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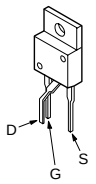
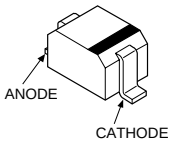
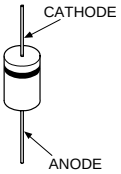


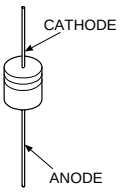
DTZ33B
DTZ4.7C
MA111
MA111-TX
MA8039
RD5.6SB
1SS355
1SS355-TE-17



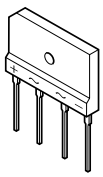
D1NL20U-TR
D2S4MF



D1NS4
RD12ES-B3
RD13ES-B2
RD16ES-B3
RD22ES-B2
RD24ES-B3
RD3.3ES-B2
RD4.7ES-B2
RD5.1ES-B2
RD5.6ES-B2
RD6.2ES-B2
RD6.8ES-B1
RD6.8ES-B2
RD6.8ES-B3
RD8.2ES-B2
1SS119-25TD
1SS119-25



D1NL40-TA2
D2L40-TA
D4SBS4-F
D4SB60L



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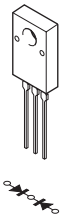
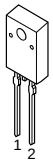


D5L60



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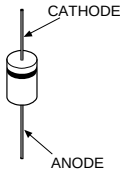
ERA91-02
S2L20UF



D2S4MF
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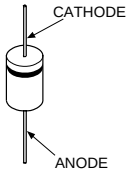
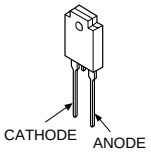
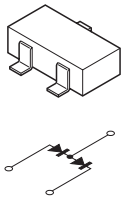
GP08D
HSS83TD
RGP02-17EL-6433
S2L40F
UF4005PKG23
1SS226



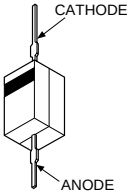
FMQ-G5FMS



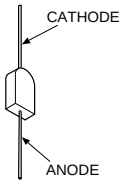
1SS226
1PS226-115



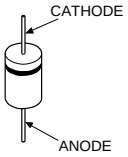
P6KE170AG23



RM11C



SB340



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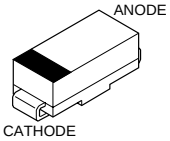

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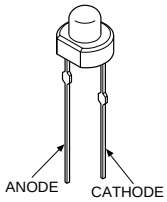
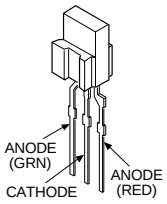
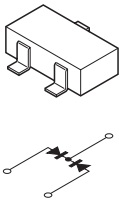


SPR-325MVW



1SS184



SECTION 6
EXPLODED VIEWS

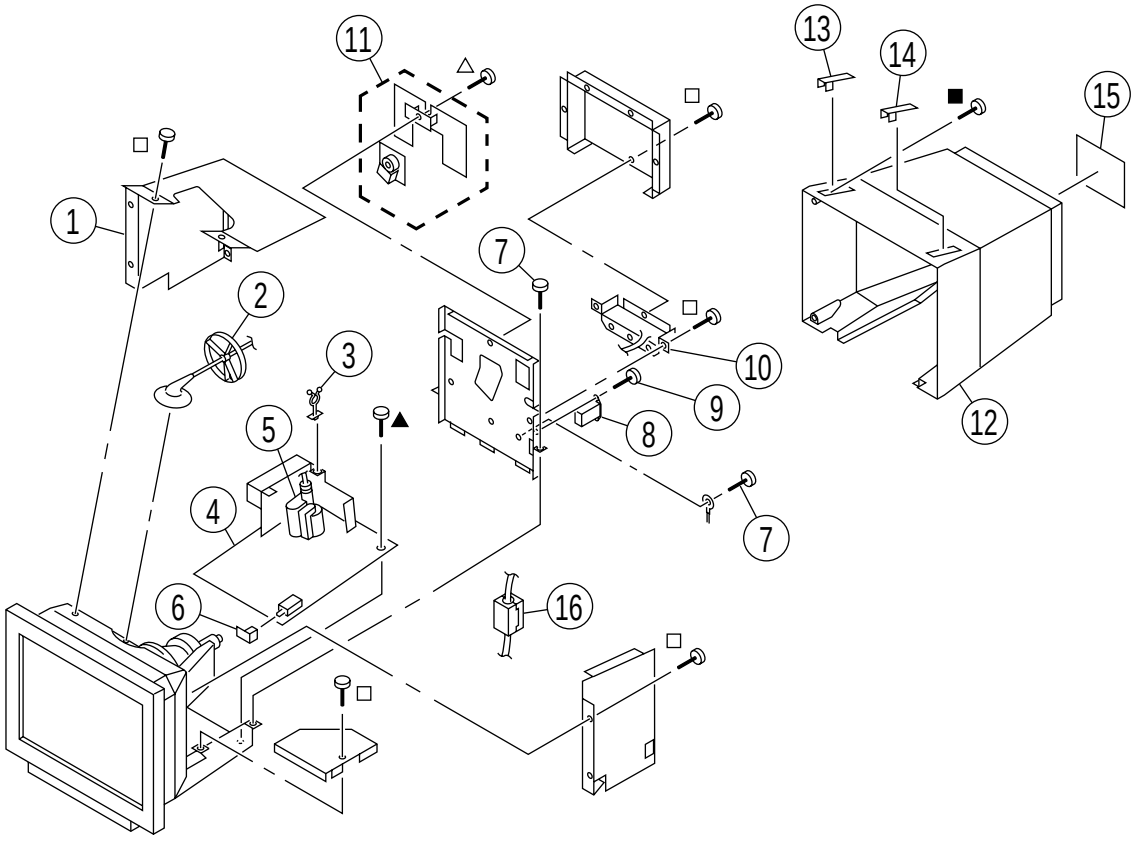
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

6-1. CHASSIS

▲ 7-685-647-79 +BVTP 3X10
■ 7-685-663-71 +BVTP 4X16
△ 7-685-872-09 +BVTT 3X8
□ 7-685-881-09 +BVTT 4X8



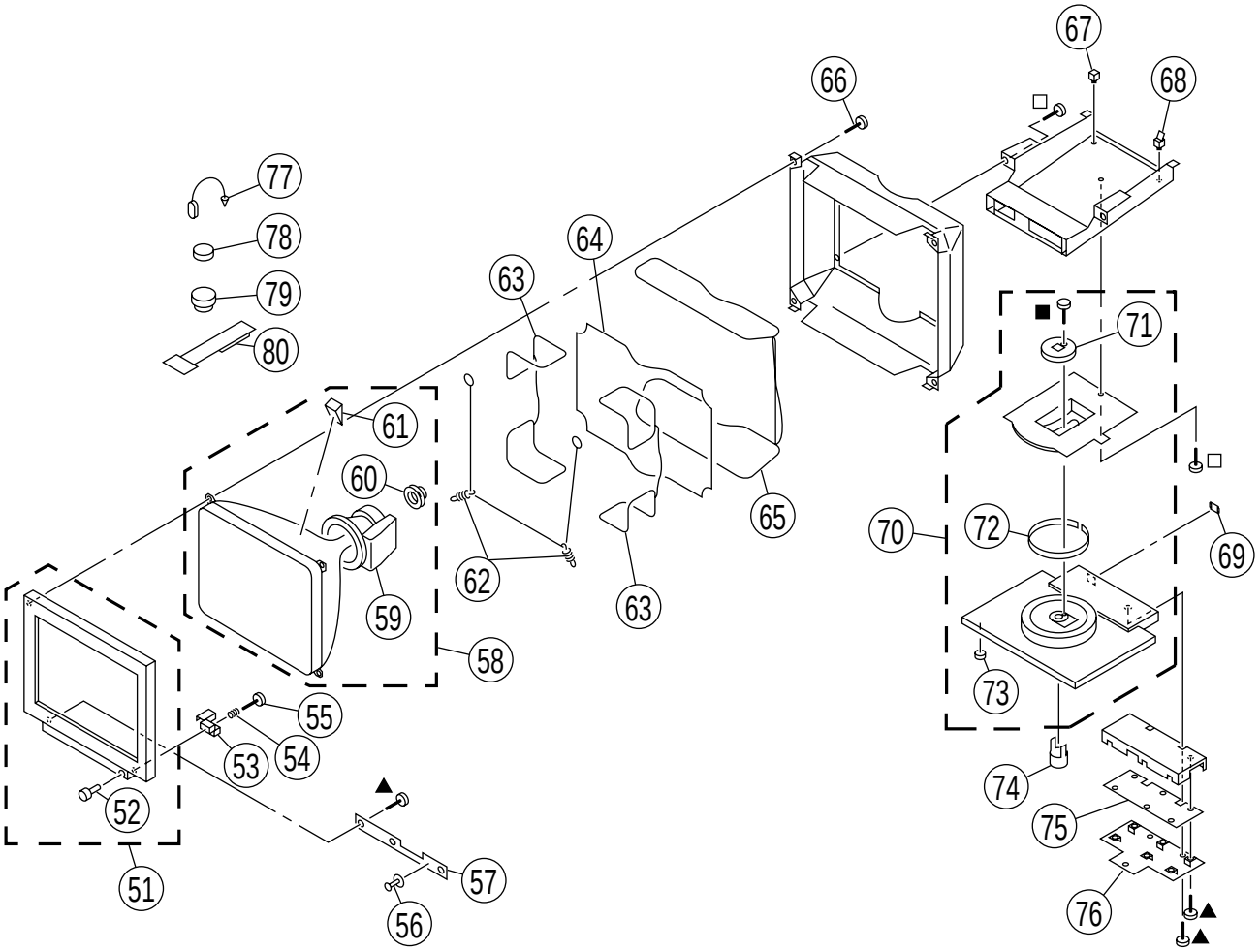
REF.NO.	PART NO.	DESCRIPTION	REMARK
1	*4-068-937-01	SHIELD, EMI	
2	3-704-372-01	HOLDER, HV CABLE	
3	3-703-319-01	PURSE LOCK (DIA. 15)	
4	*8-933-353-00	D BOARD, COMPLETE	5
5	⚠X-4035-425-1	TRANSFORMER ASSY,FLYBACK	(NX-4500//J1E4)
6	*4-394-972-21	CAP, POWER	
7	4-389-025-01	SCREW (M4) (EXT TOOTH WASHER)	
8	⚠1-251-382-22	INLET, AC 3P (WITH NOISE FILTER)	
9	4-052-345-01	SCREW, (3X8) (+K), TAPPING	
10	1-694-509-11	TERMINAL BOARD ASSY, I/O	
11	*A-1298-762-B	A BOARD, COMPLETE	
12	4-068-929-01	CABINET	
13	4-068-919-01	COVER (L), SCREW	
14	4-068-918-01	COVER (R), SCREW	
15	4-069-895-11	LABEL, INFORMATION [F400]	
15	4-069-895-01	LABEL, INFORMATION [F400T9]	
16	1-543-653-11	CORE ASSY, BEAD (DIVISION TYPE)	

6-2. PICTURE TUBE

▲ 7-685-647-79 +BVTP 3X10
■ 7-685-663-71 +BVTP 4X16
□ 7-685-881-09 +BVTT 4X8

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.



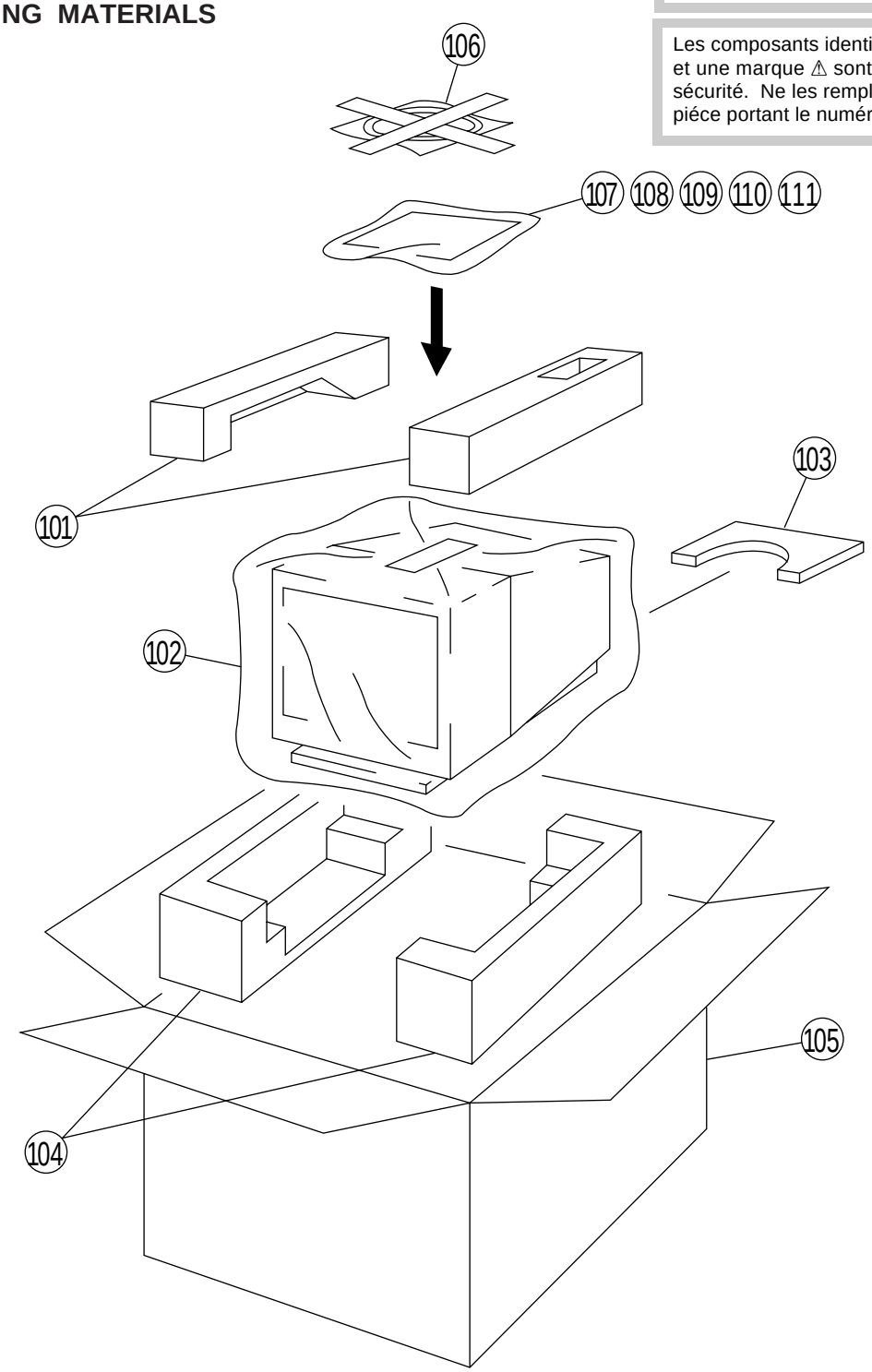
REF.NO.	PART NO.	DESCRIPTION	REMARK
51	X-4036-401-4	BEZEL ASSY	52
52	4-065-308-01	BUTTON, POWER	
53	4-068-917-01	BAR, EXTENSION	
54	3-653-339-01	SPRING, COMPRESSION	
55	4-046-797-01	SCREW (3X12), (+) BV TAP	
56	4-065-309-01	KNOB (MENU)	
57	* 8-933-354-00	H BOARD, COMPLETE	
58	⚠ 8-736-406-71	ITC ASSY (19TRF-R1)	59-61
59	⚠ 1-451-495-12	DEFLECTION YOKE (Y19TRK)	
60	⚠ 1-452-912-61	NECK ASSEMBLY (NA-2914)	
61	4-050-492-01	SPACER, DEFLECTION YOKE	
62	* 4-047-316-01	SPRING, EXTENSION	
63	⚠ 1-416-984-11	COIL, LANDING CORRECTION (LCC)	
64	⚠ 1-416-983-11	COIL, LANDING CORRECTION (NS)	
65	⚠ 1-416-982-11	COIL, DEGAUSSING	

REF.NO.	PART NO.	DESCRIPTION	REMARK
66	4-365-808-01	SCREW (5), TAPPING	
67	* 4-382-848-01	HOLDER, PRINTED CIRCUIT BOARD	
68	* 3-703-141-00	HOLDER, PRINTED CIRCUIT BOARD	
69	4-065-302-01	COVER, ECS	
70	X-4036-400-1	STAND ASSY	71-73
71	4-061-396-01	STOPPER (A)	
72	4-063-397-01	RING, TILT SWIVEL	
73	4-047-474-01	FOOT, RUBBER	
74	4-062-381-01	STOPPER (B)	
75	* 8-933-355-00	US BOARD, COMPLETE	
76	4-068-922-01	COVER, STAND	
77	4-308-870-00	CLIP, LEAD WIRE	
78	1-452-032-00	MAGNET, DISK; 10mmϕ	
79	1-452-094-00	MAGNET, ROTATABLE DISK; 15mmϕ	
80	4-051-736-21	PIECE A (90), CONV. CORRECT	

The components identified by shading and mark ⚠ are critical for safety.
Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

6-3. PACKING MATERIALS



REF.NO.		PART NO.	DESCRIPTION	REMARK
101	*	4-068-248-01	CUSHION (UPPER) ASSY	
102	*	4-041-927-31	BAG, POLYETHYLENE	
103	*	4-068-254-01	PAD FOR TILT FIXING	
104	*	4-068-249-01	CUSHION (LOWER) ASSY	
105	*	4-070-120-01	INDIVIDUAL CARTON [F400]	
105	*	4-070-121-01	INDIVIDUAL CARTON [F400T9]	
106		1-790-650-11	CABLE ASSY (15P DSUBX2 CONNECTOR)	
107	⚠*	1-782-783-11	CORD SET, POWER [F400]	
107	⚠	1-782-784-11	CORD SET, POWER [F400T9]	
108		1-785-429-11	ADAPTOR, CONVERSION (for Macintosh)	
109		1-790-081-21	CABLE, USB	
110		3-864-156-22	MANUAL, INSTRUCTION [F400]	
110		3-864-156-31	MANUAL, INSTRUCTION [F400T9]	
111		1-759-641-14	DISK, INFORMATION (for Windows)	

MEMO

SECTION 7
ELECTRICAL PARTS LIST

A

NOTE:

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

The components identified by ⧓ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS
  MF : µF
- COILS
  UH : µH

REF.NO.	PART NO.	DESCRIPTION			REMARK
	* A-1298-762-B	A BOARD,COMPLETE			
		**********			
	4-382-854-11	SCREW (M3X10), P, SW (+)			(IC406,IC407, IC409)
		<CAPACITOR>			
C103	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C104	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C106	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C107	1-107-649-11	ELECT	2.2MF	20%	250V
C109	1-117-450-11	FILM	0.47MF	10%	250V
C110	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C111	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C120	1-126-933-11	ELECT	100MF	20%	16V
C124	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C130	1-115-340-11	CERAMIC CHIP	0.22MF	10%	25V
C152	1-126-933-11	ELECT	100MF	20%	16V
C203	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C204	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C206	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C207	1-107-649-11	ELECT	2.2MF	20%	250V
C209	1-117-450-11	FILM	0.47MF	10%	250V
C210	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C211	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C220	1-126-933-11	ELECT	100MF	20%	16V
C224	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C230	1-115-340-11	CERAMIC CHIP	0.22MF	10%	25V
C252	1-126-933-11	ELECT	100MF	20%	16V
C303	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C304	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C306	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C307	1-107-649-11	ELECT	2.2MF	20%	250V
C309	1-117-450-11	FILM	0.47MF	10%	250V
C310	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C311	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C320	1-126-933-11	ELECT	100MF	20%	16V
C324	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C330	1-115-340-11	CERAMIC CHIP	0.22MF	10%	25V
C352	1-126-933-11	ELECT	100MF	20%	16V
C401	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C402	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C403	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C404	1-104-664-11	ELECT	47MF	20%	25V
C405	1-128-560-11	ELECT	22MF	20%	100V
C406	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C407	1-107-823-11	CERAMIC CHIP	0.47MF	10%	16V
C408	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C409	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C410	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C411	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C413	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C414	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C415	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C418	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C420	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C421	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C422	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C424	1-104-664-11	ELECT	47MF	20%	25V
C425	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C426	1-126-933-11	ELECT	100MF	20%	16V
C427	1-115-340-11	CERAMIC CHIP	0.22MF	10%	25V
C429	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C430	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C432	1-107-652-11	ELECT	10MF	20%	250V
C433	1-104-664-11	ELECT	47MF	20%	25V
C434	1-162-318-11	CERAMIC	0.001MF	10%	500V
C435	1-104-664-11	ELECT	47MF	20%	25V
C436	1-104-664-11	ELECT	47MF	20%	25V
C437	1-104-665-11	ELECT	100MF	20%	25V
C438	1-162-114-00	CERAMIC	0.0047MF		2KV
C439	1-162-318-11	CERAMIC	0.001MF	10%	500V
C440	1-162-318-11	CERAMIC	0.001MF	10%	500V
C442	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C443	1-128-528-11	ELECT	470MF	20%	16V
C444	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C445	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C446	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C447	1-104-664-11	ELECT	47MF	20%	25V
C448	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C449	1-163-235-11	CERAMIC CHIP	22PF	5%	50V
C452	1-104-664-11	ELECT	47MF	20%	25V
C453	1-128-562-11	ELECT	47MF	20%	100V
C454	1-163-227-11	CERAMIC CHIP	10PF	0.5PF	50V
C455	1-115-340-11	CERAMIC CHIP	0.22MF	10%	25V

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

A

REF.NO.	PART NO.	DESCRIPTION			REMARK
C458	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C459	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C460	1-104-664-11	ELECT	47MF	20%	25V
C462	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C466	1-162-318-11	CERAMIC	0.001MF	10%	500V
C467	1-162-318-11	CERAMIC	0.001MF	10%	500V
C468	1-162-134-11	CERAMIC	470PF	10%	2KV
C469	1-126-963-11	ELECT	4.7MF	20%	50V
C470	1-104-664-11	ELECT	47MF	20%	25V
C471	1-104-664-11	ELECT	47MF	20%	25V
C472	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C477	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C478	1-164-346-11	CERAMIC CHIP	1MF		16V
C479	1-164-346-11	CERAMIC CHIP	1MF		16V
C480	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C481	1-136-169-00	FILM	0.22MF	5%	50V
C482	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C483	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C484	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C485	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C486	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C487	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C488	1-117-450-11	FILM	0.47MF	10%	250V
		<CONNECTOR>			
CN401	*1-564-523-11	PLUG, CONNECTOR 8P			
CN402	*1-564-526-11	PLUG, CONNECTOR 11P			
CN403	*1-564-522-11	PLUG, CONNECTOR 7P			
CN404	*1-564-521-11	PLUG, CONNECTOR 6P			
CN405	*1-766-179-11	PIN, CONNECTOR (PC BOARD) 2P			
CN406	*1-564-522-11	PLUG, CONNECTOR 7P			
CN412	1-695-915-11	TAB (CONTACT)			
		<DIODE>			
D101	8-719-062-51	DIODE 1PS226-115			
D103	8-719-052-12	DIODE 1SS376TE-17			
D104	8-719-052-12	DIODE 1SS376TE-17			
D105	8-719-052-12	DIODE 1SS376TE-17			
D106	8-719-404-50	DIODE MA111-TX			
D107	8-719-052-12	DIODE 1SS376TE-17			
D111	8-719-062-51	DIODE 1PS226-115			
D201	8-719-062-51	DIODE 1PS226-115			
D203	8-719-052-12	DIODE 1SS376TE-17			
D204	8-719-052-12	DIODE 1SS376TE-17			
D205	8-719-052-12	DIODE 1SS376TE-17			
D206	8-719-404-50	DIODE MA111-TX			
D207	8-719-052-12	DIODE 1SS376TE-17			
D211	8-719-062-51	DIODE 1PS226-115			
D301	8-719-062-51	DIODE 1PS226-115			
D303	8-719-052-12	DIODE 1SS376TE-17			
D304	8-719-052-12	DIODE 1SS376TE-17			
D305	8-719-052-12	DIODE 1SS376TE-17			
D306	8-719-404-50	DIODE MA111-TX			
D307	8-719-052-12	DIODE 1SS376TE-17			
D311	8-719-062-51	DIODE 1PS226-115			
D401	8-719-109-85	ZENER DIODE RD5.1ESB2			
D406	8-719-911-19	DIODE 1SS119-25			
D407	8-719-052-12	DIODE 1SS376TE-17			
D408	8-719-976-96	ZENER DIODE DTZ4.7C			
D409	8-719-062-51	DIODE 1PS226-115			
D413	8-719-911-19	DIODE 1SS119-25			
D414	8-719-109-66	ZENER DIODE RD3.3ESB2			
D415	8-719-051-85	DIODE HSS83TD			
D416	8-719-404-50	DIODE MA111-TX			
D417	8-719-404-50	DIODE MA111-TX			
D418	8-719-052-12	DIODE 1SS376TE-17			
		<FERRITE BEAD>			
FB101	1-469-393-21	INDUCTOR			
FB102	1-216-295-91	SHORT			0
FB103	1-216-295-91	SHORT			0
FB201	1-469-393-21	INDUCTOR			
FB202	1-216-295-91	SHORT			0
FB203	1-216-295-91	SHORT			0
FB301	1-469-393-21	INDUCTOR			
FB302	1-216-295-91	SHORT			0
FB303	1-216-295-91	SHORT			0
FB401	1-216-295-91	SHORT			0
FB402	1-412-911-31	FERRITE			1.1UH
FB403	1-216-295-91	SHORT			0
FB405	1-412-911-31	FERRITE			1.1UH
FB406	1-412-911-31	FERRITE			1.1UH
FB408	1-412-911-31	FERRITE			1.1UH
FB409	1-216-295-91	SHORT			0
FB410	1-216-295-91	SHORT			0
FB411	1-216-295-91	SHORT			0
FB413	1-412-911-31	FERRITE			1.1UH
FB414	1-216-295-91	SHORT			0
FB415	1-216-295-91	SHORT			0
FB416	1-216-295-91	SHORT			0
FB417	1-412-911-31	FERRITE			1.1UH
FB420	1-216-295-91	SHORT			0
		<IC>			
IC401	8-759-064-36	IC MB88346BPFV			
IC402	8-759-925-72	IC SN74HC02ANS			
IC403	8-759-445-85	IC LM1283N			
IC404	8-759-525-20	IC LSC4380DW2R2			
IC405	8-759-502-82	IC LM324M			
IC406	8-759-263-43	IC TA78M12S			
IC407	8-749-013-74	IC FA4111			
IC408	8-759-522-86	IC M52755FP-TP			
IC409	8-749-011-42	IC SI-3050F			
IC410	8-759-502-82	IC LM324M			
		<JACK>			
J401	⚠ 1-251-598-11	SOCKET, CRT			

A

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

REF.NO.	PART NO.	DESCRIPTION			REMARK
		<COIL>			
L401	1-408-615-31	INDUCTOR	100UH		
L403	1-412-963-11	INDUCTOR	100UH		
L404	1-408-615-31	INDUCTOR	100UH		
L405	1-412-529-11	INDUCTOR	22UH		
		<IC LINK>			
PS401	⚠ 1-533-590-31	LINK, IC (1A/90V AC,60V DC)			
PS402	⚠ 1-532-637-91	LINK, IC (1A/150V)			
		<TRANSISTOR>			
Q101	8-729-041-66	TRANSISTOR 2SC4015TV2			
Q102	8-729-200-17	TRANSISTOR 2SA1091-O			
Q103	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q201	8-729-041-66	TRANSISTOR 2SC4015TV2			
Q202	8-729-200-17	TRANSISTOR 2SA1091-O			
Q203	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q301	8-729-041-66	TRANSISTOR 2SC4015TV2			
Q302	8-729-200-17	TRANSISTOR 2SA1091-O			
Q303	8-729-112-65	TRANSISTOR 2SA1462-Y33			
Q401	8-729-901-00	TRANSISTOR DTC124EK			
Q402	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q403	8-729-216-22	TRANSISTOR 2SA1162-G			
Q404	8-729-216-22	TRANSISTOR 2SA1162-G			
Q405	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q406	8-729-216-22	TRANSISTOR 2SA1162-G			
Q408	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q409	8-729-216-22	TRANSISTOR 2SA1162-G			
Q410	8-729-032-61	TRANSISTOR 2SC5022-02			
Q411	8-729-027-38	TRANSISTOR DTA144EKA-T146			
Q415	8-729-216-22	TRANSISTOR 2SA1162-G			
Q416	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
Q418	8-729-120-28	TRANSISTOR 2SC1623-L5L6			
		<RESISTOR>			
R101	1-215-395-00	METAL	82	1%	1/4W
R103	1-216-049-91	RES,CHIP	1K	5%	1/10W
R104	1-216-121-91	RES,CHIP	1M	5%	1/10W
R105	1-216-001-00	RES,CHIP	10	5%	1/10W
R106	1-216-009-91	RES,CHIP	22	5%	1/10W
R107	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R108	1-219-742-11	CARBON	47	5%	1/2W
R109	1-216-039-00	RES,CHIP	390	5%	1/10W
R110	1-216-085-00	RES,CHIP	33K	5%	1/10W
R111	1-216-089-91	RES,CHIP	47K	5%	1/10W
R112	1-216-121-91	RES,CHIP	1M	5%	1/10W
R113	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R114	1-216-097-91	RES,CHIP	100K	5%	1/10W
R115	1-216-049-91	RES,CHIP	1K	5%	1/10W
R116	1-216-097-91	RES,CHIP	100K	5%	1/10W
R117	1-216-049-91	RES,CHIP	1K	5%	1/10W
R118	1-216-689-11	RES,CHIP	39K	5%	1/10W
R121	1-216-081-00	RES,CHIP	22K	5%	1/10W
R124	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R125	1-216-039-00	RES,CHIP	390	5%	1/10W
R126	1-216-039-00	RES,CHIP	390	5%	1/10W
R127	1-216-039-00	RES,CHIP	390	5%	1/10W
R129	1-216-001-00	RES,CHIP	10	5%	1/10W
R130	1-216-017-91	RES,CHIP	47	5%	1/10W
R131	1-216-049-91	RES,CHIP	1K	5%	1/10W
R132	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R134	1-216-295-91	SHORT	0		
R140	1-216-017-91	RES,CHIP	47	5%	1/10W
R141	1-216-009-91	RES,CHIP	22	5%	1/10W
R142	1-216-121-91	RES,CHIP	1M	5%	1/10W
R143	1-216-049-91	RES,CHIP	1K	5%	1/10W
R161	1-215-395-00	METAL	82	1%	1/4W
R163	1-216-017-91	RES,CHIP	47	5%	1/10W
R171	1-216-097-91	RES,CHIP	100K	5%	1/10W
R172	1-216-097-91	RES,CHIP	100K	5%	1/10W
R201	1-215-395-00	METAL	82	1%	1/4W
R203	1-216-049-91	RES,CHIP	1K	5%	1/10W
R204	1-216-121-91	RES,CHIP	1M	5%	1/10W
R205	1-216-001-00	RES,CHIP	10	5%	1/10W
R206	1-216-009-91	RES,CHIP	22	5%	1/10W
R207	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R208	1-219-742-11	CARBON	47	5%	1/2W
R209	1-216-039-00	RES,CHIP	390	5%	1/10W
R210	1-216-085-00	RES,CHIP	33K	5%	1/10W
R211	1-216-089-91	RES,CHIP	47K	5%	1/10W
R212	1-216-121-91	RES,CHIP	1M	5%	1/10W
R213	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R214	1-216-097-91	RES,CHIP	100K	5%	1/10W
R215	1-216-049-91	RES,CHIP	1K	5%	1/10W
R216	1-216-097-91	RES,CHIP	100K	5%	1/10W
R217	1-216-049-91	RES,CHIP	1K	5%	1/10W
R218	1-216-689-11	RES,CHIP	39K	5%	1/10W
R221	1-216-081-00	RES,CHIP	22K	5%	1/10W
R224	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R225	1-216-039-00	RES,CHIP	390	5%	1/10W
R226	1-216-039-00	RES,CHIP	390	5%	1/10W
R227	1-216-039-00	RES,CHIP	390	5%	1/10W
R229	1-216-001-00	RES,CHIP	10	5%	1/10W
R230	1-216-631-11	METAL CHIP	150	0.50%	1/10W
R231	1-216-049-91	RES,CHIP	1K	5%	1/10W
R232	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R234	1-216-295-91	SHORT	0		
R240	1-216-017-91	RES,CHIP	47	5%	1/10W
R241	1-216-009-91	RES,CHIP	22	5%	1/10W
R242	1-216-121-91	RES,CHIP	1M	5%	1/10W
R243	1-216-049-91	RES,CHIP	1K	5%	1/10W
R261	1-215-395-00	METAL	82	1%	1/4W
R263	1-216-017-91	RES,CHIP	47	5%	1/10W
R271	1-216-097-91	RES,CHIP	100K	5%	1/10W
R272	1-216-097-91	RES,CHIP	100K	5%	1/10W
R301	1-215-395-00	METAL	82	1%	1/4W
R303	1-216-049-91	RES,CHIP	1K	5%	1/10W
R304	1-216-121-91	RES,CHIP	1M	5%	1/10W
R305	1-216-001-00	RES,CHIP	10	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R306	1-216-009-91	RES,CHIP	22	5%	1/10W
R307	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R308	1-219-742-11	CARBON	47	5%	1/2W
R309	1-216-039-00	RES,CHIP	390	5%	1/10W
R310	1-216-085-00	RES,CHIP	33K	5%	1/10W
R311	1-216-089-91	RES,CHIP	47K	5%	1/10W
R312	1-216-121-91	RES,CHIP	1M	5%	1/10W
R313	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R314	1-216-097-91	RES,CHIP	100K	5%	1/10W
R315	1-216-049-91	RES,CHIP	1K	5%	1/10W
R316	1-216-097-91	RES,CHIP	100K	5%	1/10W
R317	1-216-049-91	RES,CHIP	1K	5%	1/10W
R318	1-216-689-11	RES,CHIP	39K	5%	1/10W
R321	1-216-081-00	RES,CHIP	22K	5%	1/10W
R324	1-216-063-91	RES,CHIP	3.9K	5%	1/10W
R325	1-216-039-00	RES,CHIP	390	5%	1/10W
R326	1-216-039-00	RES,CHIP	390	5%	1/10W
R327	1-216-039-00	RES,CHIP	390	5%	1/10W
R329	1-216-001-00	RES,CHIP	10	5%	1/10W
R330	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R331	1-216-049-91	RES,CHIP	1K	5%	1/10W
R332	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R334	1-216-295-91	SHORT	0		
R340	1-216-017-91	RES,CHIP	47	5%	1/10W
R341	1-216-009-91	RES,CHIP	22	5%	1/10W
R342	1-216-121-91	RES,CHIP	1M	5%	1/10W
R343	1-216-049-91	RES,CHIP	1K	5%	1/10W
R361	1-215-395-00	METAL	82	1%	1/4W
R363	1-216-017-91	RES,CHIP	47	5%	1/10W
R371	1-216-097-91	RES,CHIP	100K	5%	1/10W
R372	1-216-097-91	RES,CHIP	100K	5%	1/10W
R401	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R404	1-216-025-91	RES,CHIP	100	5%	1/10W
R405	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R408	1-216-081-00	RES,CHIP	22K	5%	1/10W
R409	1-216-049-91	RES,CHIP	1K	5%	1/10W
R410	1-216-081-00	RES,CHIP	22K	5%	1/10W
R415	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R416	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R417	1-216-049-91	RES,CHIP	1K	5%	1/10W
R418	1-216-041-00	RES,CHIP	470	5%	1/10W
R419	1-216-049-91	RES,CHIP	1K	5%	1/10W
R420	1-216-049-91	RES,CHIP	1K	5%	1/10W
R421	1-216-049-91	RES,CHIP	1K	5%	1/10W
R424	1-216-049-91	RES,CHIP	1K	5%	1/10W
R425	1-216-097-91	RES,CHIP	100K	5%	1/10W
R428	1-216-655-11	METAL CHIP	1.5K	0.50%	1/10W
R429	1-216-121-91	RES,CHIP	1M	5%	1/10W
R430	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R431	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R432	1-216-049-91	RES,CHIP	1K	5%	1/10W
R434	1-216-025-91	RES,CHIP	100	5%	1/10W
R435	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R436	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R437	1-216-049-91	RES,CHIP	1K	5%	1/10W
R439	1-216-049-91	RES,CHIP	1K	5%	1/10W
R440	1-216-081-00	RES,CHIP	22K	5%	1/10W
R446	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R447	1-216-089-91	RES,CHIP	47K	5%	1/10W
R448	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R449	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R450	1-216-089-91	RES,CHIP	47K	5%	1/10W
R451	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R453	1-216-295-91	SHORT	0		
R454	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R455	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R456	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R457	1-216-073-00	RES,CHIP	10K	5%	1/10W
R458	1-219-749-91	CARBON	10K	5%	1/2W
R459	1-216-025-91	RES,CHIP	100	5%	1/10W
R460	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R461	1-211-885-21	METAL	2.2M	5%	1W
R462	1-216-091-00	RES,CHIP	56K	5%	1/10W
R463	1-211-895-11	METAL	10M	10%	1/4W
R464	1-216-097-91	RES,CHIP	100K	5%	1/10W
R465	1-216-097-91	RES,CHIP	100K	5%	1/10W
R466	1-216-049-91	RES,CHIP	1K	5%	1/10W
R467	1-216-049-91	RES,CHIP	1K	5%	1/10W
R469	1-216-081-00	RES,CHIP	22K	5%	1/10W
R471	1-216-121-91	RES,CHIP	1M	5%	1/10W
R472	1-216-097-91	RES,CHIP	100K	5%	1/10W
R473	1-216-097-91	RES,CHIP	100K	5%	1/10W
R476	1-216-041-00	RES,CHIP	470	5%	1/10W
R480	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R481	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R482	1-216-097-91	RES,CHIP	100K	5%	1/10W
R486	1-216-049-91	RES,CHIP	1K	5%	1/10W
R487	1-216-025-91	RES,CHIP	100	5%	1/10W
R488	1-216-077-00	RES,CHIP	15K	5%	1/10W
R492	1-216-633-11	METAL CHIP	180	0.50%	1/10W
R493	1-216-649-11	METAL CHIP	820	0.50%	1/10W
R494	1-216-049-91	RES,CHIP	1K	5%	1/10W
R495	1-216-049-91	RES,CHIP	1K	5%	1/10W
R496	1-216-025-91	RES,CHIP	100	5%	1/10W
R497	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1401	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1402	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
R1403	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1404	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1405	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1406	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1407	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1408	1-216-025-91	RES,CHIP	100	5%	1/10W
R1410	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1412	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1413	1-216-033-00	RES,CHIP	220	5%	1/10W
R1415	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1416	1-216-295-91	SHORT	0		
R1417	1-216-041-00	RES,CHIP	470	5%	1/10W
R1418	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1421	1-216-065-91	RES,CHIP	4.7K	5%	1/10W

REF.NO.	PART NO.	DESCRIPTION			REMARK
R1422	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1423	1-216-041-00	RES,CHIP	470	5%	1/10W
R1424	1-216-113-00	RES,CHIP	470K	5%	1/10W
R1425	1-216-105-91	RES,CHIP	220K	5%	1/10W
		<SPARK GAP>			
SG101	1-517-499-21	GAP, SPARK			
SG201	1-517-499-21	GAP, SPARK			
SG301	1-517-499-21	GAP, SPARK			
SG401	1-517-499-21	GAP, SPARK			
SG402	1-519-422-11	GAP, SPARK			
**********					
*	8-933-353-00	D BOARD,COMPLETE			
		**********			
	1-533-223-11	HOLDER, FUSE (F601)			
	2-371-561-00	BUSHING (P), INSULATING (IC502)			
	3-710-578-01	COVER,VOLUME,6 MOLD (RV901)			
	4-060-842-01	SHEET, INSULATING (IC502)			
	4-060-844-01	SHEET, INSULATING (IC1504)			
	4-061-192-01	SHEET, INSULATING (Q519)			
	4-382-854-11	SCREW (M3X10), P, SW (+) (IC502, IC602, IC603, IC1504, Q514, Q518, Q519, Q520, Q530, Q531, Q535, Q605, Q905, Q906, D511, D601, D617, D622, D629, R539, R919)			
	7-685-646-79	SCREW +BVTP 3X8 TYPE2 IT-3			
		<CAPACITOR>			
C001	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C002	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C003	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C004	1-104-664-11	ELECT	47MF	20%	25V
C005	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C006	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C007	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C008	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C009	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C010	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C011	1-163-237-11	CERAMIC CHIP	27PF	5%	50V
C012	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C013	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C014	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C015	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C016	1-104-664-11	ELECT	47MF	20%	25V
C017	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C021	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C022	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C023	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C024	1-104-664-11	ELECT	47MF	20%	25V
C025	1-104-664-11	ELECT	47MF	20%	25V
C026	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C027	1-126-961-11	ELECT	2.2MF	20%	50V
C028	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C029	1-126-935-11	ELECT	470MF	20%	16V
C030	1-137-372-11	FILM	0.022MF	5%	50V
C031	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C036	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C037	1-164-690-91	CERAMIC CHIP	0.0022MF	5%	50V
C038	1-126-960-11	ELECT	1MF	20%	50V
C039	1-136-177-00	FILM	1MF	5%	50V
C040	1-163-137-00	CERAMIC CHIP	680PF	5%	50V
C041	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C042	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C043	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C044	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C045	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C046	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C047	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C048	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C049	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C050	1-137-194-81	FILM	0.47MF	5%	50V
C051	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C052	1-126-963-11	ELECT	4.7MF	20%	50V
C053	1-126-960-11	ELECT	1MF	20%	50V
C054	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C055	1-126-964-11	ELECT	10MF	20%	50V
C056	1-126-964-11	ELECT	10MF	20%	50V
C057	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C058	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C059	1-163-257-11	CERAMIC CHIP	180PF	5%	50V
C060	1-126-964-11	ELECT	10MF	20%	50V
C061	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C062	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C063	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C064	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C065	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C066	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C067	1-126-964-11	ELECT	10MF	20%	50V
C068	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C070	1-130-495-00	FILM	0.1MF	5%	50V
C071	1-126-960-11	ELECT	1MF	20%	50V
C072	1-136-244-11	FILM	0.1MF	5%	50V
C073	1-126-964-11	ELECT	10MF	20%	50V
C074	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C075	1-104-665-11	ELECT	100MF	20%	25V
C077	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C078	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C079	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C081	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C083	1-104-664-11	ELECT	47MF	20%	25V
C084	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C085	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C086	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C087	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C088	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C089	1-117-722-11	ELECT	2200MF	20%	10V
C090	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V

D

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The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
C091	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C092	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C093	1-126-964-11	ELECT	10MF	20%	50V
C094	1-104-664-11	ELECT	47MF	20%	25V
C096	1-104-664-11	ELECT	47MF	20%	25V
C098	1-104-664-11	ELECT	47MF	20%	25V
C099	1-104-664-11	ELECT	47MF	20%	25V
C501	1-163-005-11	CERAMIC CHIP	470PF	10%	50V
C502	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C503	1-126-967-11	ELECT	47MF	20%	50V
C504	1-137-194-81	FILM	0.47MF	5%	50V
C505	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C506	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C507	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C508	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C509	1-104-664-11	ELECT	47MF	20%	25V
C510	1-126-941-11	ELECT	470MF	20%	25V
C511	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C512	1-127-810-51	ELECT MELF	22MF	20%	250V
C514	1-164-281-11	CERAMIC	0.001MF		2KV
C515	1-136-187-11	FILM	0.047MF	10%	250V
C517	1-137-368-11	FILM	0.0047MF	5%	50V
C518	1-137-368-11	FILM	0.0047MF	5%	50V
C520	1-104-664-11	ELECT	47MF	20%	25V
C522	1-126-963-11	ELECT	4.7MF	20%	50V
C523	1-107-770-11	FILM	0.16MF	3%	400V
C524	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C525	1-128-562-11	ELECT	47MF	20%	100V
C526	1-128-561-91	ELECT	33MF	20%	100V
C527	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C529	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C530	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C532	1-115-520-11	FILM	0.68MF	5%	250V
C533	1-115-516-11	FILM	0.33MF	5%	250V
C536	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C538	1-117-959-11	FILM	4700PF	3%	1.8KV
C540	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C541	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C542	1-117-948-91	FILM	1500PF	5%	630V
C543	1-162-558-11	CERAMIC	100PF	10%	2KV
C545	1-115-512-11	FILM	0.15MF	5%	250
C546	1-107-597-11	CERAMIC	22PF	5%	500V
C547	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C548	1-115-510-71	FILM	0.082MF	5%	250V
C549	1-130-495-00	FILM	0.1MF	5%	50V
C550	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C551	1-162-558-11	CERAMIC	100PF	10%	2KV
C552	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C553	1-117-953-11	FILM	0.033MF	5%	400V
C554	1-107-665-11	ELECT	0.47MF	20%	400V
C555	1-162-134-11	CERAMIC	470PF	10%	2KV
C559	1-164-281-11	CERAMIC	0.001MF		2KV
C560	1-163-019-00	CERAMIC CHIP	0.0068MF	10%	50V
C561	1-104-664-11	ELECT	47MF	20%	25V
C562	1-164-281-11	CERAMIC	0.001MF		2KV
C564	1-126-960-11	ELECT	1MF	20%	50V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C565	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C568	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C569	1-107-597-11	CERAMIC	22PF	5%	500V
C572	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C573	1-115-523-71	FILM	1.2MF	5%	250V
C575	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C577	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C579	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C581	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C582	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C583	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C584	1-164-182-11	CERAMIC CHIP	0.0033MF	10%	50V
C585	1-107-649-11	ELECT	2.2MF	20%	250V
C601	⚠ 1-113-900-51	CERAMIC	470PF	10%	250V
C602	⚠ 1-107-533-51	FILM	1MF	20%	250V
C603	⚠ 1-107-533-51	FILM	1MF	20%	250V
C604	⚠ 1-113-926-91	CERAMIC	0.0047MF		250V
C605	⚠ 1-113-900-51	CERAMIC	470PF	10%	250V
C606	⚠ 1-113-926-91	CERAMIC	0.0047MF		250V
C608	1-126-965-11	ELECT	22MF	20%	50V
C609	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C610	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C611	1-126-964-11	ELECT	10MF	20%	50V
C613	1-126-963-11	ELECT	4.7MF	20%	50V
C614	1-126-968-11	ELECT	100MF	20%	50V
C615	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C616	1-130-495-00	FILM	0.1MF	5%	50V
C617	1-104-665-11	ELECT	100MF	20%	10V
C618	1-130-029-00	FILM	8200PF	2%	50V
C620	1-126-969-11	ELECT	220MF	20%	50V
C621	1-126-964-11	ELECT	10MF	20%	50V
C622	1-126-967-11	ELECT	47MF	20%	50V
C623	1-127-825-11	FILM	0.0033MF	3%	1KV
C624	1-126-768-11	ELECT	2200MF	20%	16V
C625	1-126-795-11	ELECT	10MF	20%	25V
C626	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C627	1-128-564-11	ELECT	220MF	20%	100V
C628	1-126-927-11	ELECT	2200MF	20%	10V
C629	1-126-927-11	ELECT	2200MF	20%	10V
C630	1-107-641-11	ELECT	220MF	20%	160V
C631	1-126-943-11	ELECT	2200MF	20%	25V
C632	1-126-943-11	ELECT	2200MF	20%	25V
C633	1-126-963-11	ELECT	4.7MF	20%	50V
C634	1-107-650-11	ELECT	3.3MF	20%	250V
C635	1-128-581-11	ELECT	4.7MF	20%	100V
C637	1-104-664-11	ELECT	47MF	20%	25V
C638	1-107-888-11	ELECT	47MF	20%	25V
C639	1-104-664-11	ELECT	47MF	20%	25V
C640	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C643	1-107-641-11	ELECT	220MF	20%	160V
C644	1-127-825-11	FILM	0.0033MF	3%	1KV
C645	1-137-479-11	FILM	1MF	10%	400V
C646	1-107-792-11	CERAMIC	100PF	5%	1KV
C647	1-113-707-11	ELECT(BLOCK)	220MF	20%	450V
C648	1-115-340-11	CERAMIC CHIP	0.22MF	10%	25V

REF.NO.	PART NO.	DESCRIPTION			REMARK
C650	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C651	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C652	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C653	1-101-821-00	CERAMIC	0.0022MF		500V
C654	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C655	1-111-052-51	ELECT	0.0068F	20%	16V
C658	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C659	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C660	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C701	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C704	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C705	1-107-710-11	ELECT	100MF	20%	25V
C706	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C708	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C709	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C710	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C711	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C712	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C713	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C716	1-107-710-11	ELECT	100MF	20%	25V
C718	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C720	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C721	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C722	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C723	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C724	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C725	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C726	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C901	1-126-961-11	ELECT	2.2MF	20%	50V
C902	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C903	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C904	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C905	1-163-145-00	CERAMIC CHIP	0.0015MF	5%	50V
C906	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C907	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C910	1-126-934-11	ELECT	220MF	20%	16V
C911	1-163-259-91	CERAMIC CHIP	220PF	5%	50V
C912	1-136-187-11	FILM	0.047MF	10%	250V
C913	1-126-967-11	ELECT	47MF	20%	50V
C914	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C915	1-119-748-11	ELECT	33MF	20%	400V
C916	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C917	1-163-017-00	CERAMIC CHIP	0.0047MF	10%	50V
C918	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C919	1-137-368-11	FILM	0.0047MF	5%	50V
C920	1-117-626-11	FILM	2000PF	3%	1.2KV
C921	1-137-372-11	FILM	0.022MF	5%	50V
C922	1-106-228-00	MYLAR	0.22MF	10%	100V
C923	1-106-220-00	MYLAR	0.1MF	10%	100V
C924	1-106-355-12	MYLAR	0.0033MF	10%	200V
C925	1-106-220-00	MYLAR	0.1MF	10%	100V
C926	1-136-105-00	FILM	0.33MF	5%	200V
C927	1-163-009-11	CERAMIC CHIP	0.001MF	10%	50V
C928	1-104-665-11	ELECT	100MF	20%	25V
C929	1-102-125-00	CERAMIC	0.0047MF	10%	50V
C1002	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1010	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1501	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C1502	1-130-495-00	FILM	0.1MF	5%	50V
C1503	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C1504	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C1505	1-163-003-11	CERAMIC CHIP	330PF	10%	50V
C1506	1-107-701-11	ELECT	47MF	20%	25V
C1507	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C1508	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C1509	1-107-701-11	ELECT	47MF	20%	25V
C1510	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C1511	1-104-760-11	CERAMIC CHIP	0.047MF	10%	50V
C1512	1-126-964-11	ELECT	10MF	20%	50V
C1513	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1514	1-107-914-11	ELECT	1000MF	20%	25V
C1515	1-163-037-11	CERAMIC CHIP	0.022MF	10%	50V
C1516	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1517	1-107-894-11	ELECT	220MF	20%	35V
C1518	1-107-914-11	ELECT	1000MF	20%	25V
C1519	1-106-228-00	MYLAR	0.22MF	10%	100V
C1522	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1523	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C1524	1-115-339-11	CERAMIC CHIP	0.1MF	10%	50V
C1525	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C1526	1-136-177-00	FILM	1MF	5%	50V
C1527	1-164-161-11	CERAMIC CHIP	0.0022MF	10%	50V
C1528	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C1530	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C1531	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V

<CONNECTOR>

CN501	*	1-564-512-11	PLUG, CONNECTOR 9P
CN502	*	1-564-515-11	PLUG, CONNECTOR 12P
CN503	*	1-564-511-11	PLUG, CONNECTOR 8P
CN504	*	1-564-510-11	PLUG, CONNECTOR 7P
CN505		1-764-101-11	PIN, CONNECTOR (PC BOARD) 2P
CN506		1-785-682-11	PIN, CONNECTOR (PC BOARD) 7P
CN507	*	1-564-509-11	PLUG, CONNECTOR 6P
CN509	*	1-764-334-11	PLUG, CONNECTOR 11P
CN510	*	1-564-512-11	PLUG, CONNECTOR 9P
CN511	*	1-508-879-11	BASE POST
CN512	*	1-695-207-21	PIN, AONNECTOR (PC BOARD) 6P
CN601	*	1-691-960-11	PIN, CONNECTOR (PC BOARD) 3P
CN602	*	1-784-222-11	PIN, CONNECTOR (WITH PWB)
CN701	*	1-564-513-11	PLUG, CONNECTOR 10P

<DIODE>

D001	8-719-109-89	ZENER DIODE RD5.6ESB2
D002	8-719-109-89	ZENER DIODE RD5.6ESB2
D003	8-719-062-51	DIODE 1PS226-115
D004	8-719-109-89	ZENER DIODE RD5.6ESB2
D005	8-719-109-89	ZENER DIODE RD5.6ESB2
D010	8-719-109-85	ZENER DIODE RD5.1ESB2
D014	8-719-404-50	DIODE MA111-TX
D017	8-719-404-50	DIODE MA111-TX

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REF.NO.	PART NO.	DESCRIPTION	REMARK
D020	8-719-062-51	DIODE 1PS226-115	
D021	8-719-062-51	DIODE 1PS226-115	
D022	8-719-062-51	DIODE 1PS226-115	
D023	8-719-062-51	DIODE 1PS226-115	
D024	8-719-109-96	ZENER DIODE RD6.8ESB1	
D025	8-719-911-19	DIODE 1SS119-25	
D026	8-719-911-19	DIODE 1SS119-25	
D028	8-719-109-89	ZENER DIODE RD5.6ESB2	
D030	8-719-801-78	DIODE 1SS184	
D031	8-719-109-85	ZENER DIODE RD5.1ESB2	
D032	8-719-109-85	ZENER DIODE RD5.1ESB2	
D033	8-719-109-85	ZENER DIODE RD5.1ESB2	
D034	8-719-109-85	ZENER DIODE RD5.1ESB2	
D035	8-719-109-89	ZENER DIODE RD5.6ESB2	
D036	8-719-109-89	ZENER DIODE RD5.6ESB2	
D503	8-719-404-50	DIODE MA111-TX	
D504	8-719-404-50	DIODE MA111-TX	
D505	8-719-109-98	ZENER DIODE RD6.8ESB3	
D506	8-719-110-36	ZENER DIODE RD13ESB2	
D507	8-719-404-50	DIODE MA111-TX	
D508	8-719-052-86	DIODE D2L40-TA	
D509	8-719-404-50	DIODE MA111-TX	
D510	8-719-975-77	DIODE SB340	
D511	8-719-061-21	DIODE FMQ-G5FMS	
D512	8-719-109-85	ZENER DIODE RD5.1ESB2	
D513	8-719-109-85	ZENER DIODE RD5.1ESB2	
D514	8-719-911-19	DIODE 1SS119-25	
D515	8-719-911-19	DIODE 1SS119-25	
D516	8-719-028-72	DIODE RGP02-17EL-6433	
D517	8-719-951-30	DIODE ERA91-02	
D518	8-719-404-50	DIODE MA111-TX	
D519	8-719-911-19	DIODE 1SS119-25	
D520	8-719-948-45	DIODE ERA22-08	
D522	8-719-404-50	DIODE MA111-TX	
D523	8-719-404-50	DIODE MA111-TX	
D525	8-719-109-93	ZENER DIODE RD6.2ESB2	
D526	8-719-800-76	DIODE 1SS226	
D527	8-719-404-50	DIODE MA111-TX	
D528	8-719-404-50	DIODE MA111-TX	
D601	⚠ 8-719-510-53	DIODE D4SB60L	
D602	8-719-911-19	DIODE 1SS119-25	
D603	8-719-110-57	DIODE RD22ESB2	
D604	8-719-510-02	DIODE D1NS4	
D606	8-719-979-64	DIODE UF4005PKG23	
D609	8-719-063-73	DIODE D1NL20U-TR	
D610	8-719-979-64	DIODE UF4005PKG23	
D611	8-719-066-51	DIODE P6KE170AG23	
D612	8-719-027-43	DIODE S2L20UF	
D613	8-719-022-97	DIODE D2S4MF	
D614	8-719-052-90	DIODE D1NL40-TA2	
D615	8-719-052-86	DIODE D2L40-TA	
D616	8-719-031-78	DIODE S2L40F	
D617	8-719-052-91	DIODE D4SBS4-F	
D619	8-719-022-97	DIODE D2S4MF	
D620	8-719-110-63	ZENER DIODE RD24ESB3	
D621	8-719-404-50	DIODE MA111-TX	
D622	8-719-029-04	DIODE D5L60	
D623	8-719-404-50	DIODE MA111-TX	
D624	8-719-110-46	ZENER DIODE RD16ESB3	
D625	8-719-404-50	DIODE MA111-TX	
D627	8-719-304-63	DIODE RM11C	
D629	8-719-510-41	DIODE D10SC9M	
D632	8-719-109-97	ZENER DIODE RD6.8ESB2	
D634	8-719-911-19	DIODE 1SS119-25	
D635	8-719-110-08	ZENER DIODE RD8.2ESB2	
D638	8-719-110-36	ZENER DIODE RD13ESB2	
D701	8-719-109-81	ZENER DIODE RD4.7ESB2	
D702	8-719-800-76	DIODE 1SS226	
D703	8-719-800-76	DIODE 1SS226	
D704	8-719-800-76	DIODE 1SS226	
D705	8-719-800-76	DIODE 1SS226	
D706	8-719-800-76	DIODE 1SS226	
D901	8-719-911-19	DIODE 1SS119-25	
D902	8-719-110-33	ZENER DIODE RD12ESB3	
D903	8-719-911-19	DIODE 1SS119-25	
D904	8-719-110-33	ZENER DIODE RD12ESB3	
D905	8-719-911-19	DIODE 1SS119-25	
D906	8-719-911-19	DIODE 1SS119-25	
D907	8-719-911-19	DIODE 1SS119-25	
D908	8-719-911-19	DIODE 1SS119-25	
D910	8-719-110-36	ZENER DIODE RD13ESB2	
D911	8-719-109-85	ZENER DIODE RD5.1ESB2	
D912	8-719-110-46	ZENER DIODE RD16ESB3	
D913	8-719-979-58	DIODE EGP10D	
D914	8-719-110-46	ZENER DIODE RD16ESB3	
D915	8-719-911-19	DIODE 1SS119-25	
D916	8-719-977-81	ZENER DIODE DTZ33B	
D917	8-719-052-86	DIODE D2L40-TA	
D918	8-719-110-33	ZENER DIODE RD12ESB3	
D919	8-719-109-85	ZENER DIODE RD5.1ESB2	
D920	8-719-110-33	ZENER DIODE RD12ESB3	
D1501	8-719-109-85	ZENER DIODE RD5.1ESB2	
D1502	8-719-109-85	ZENER DIODE RD5.1ESB2	
D1503	8-719-109-85	ZENER DIODE RD5.1ESB2	
D1506	8-719-908-03	DIODE GP08D	
		<FUSE>	
F601	⚠ 1-576-233-11	FUSE (H.B.C.) (6.3A/250V)	
		<FERRITE BEAD>	
FB001	1-414-598-11	INDUCTOR CHIP	
FB002	1-414-598-11	INDUCTOR CHIP	
FB501	1-410-397-21	FERRITE 1.1UH	
FB601	1-410-396-41	FERRITE 0.45UH	
FB602	⚠ 1-410-397-51	FERRITE 1.1UH	
FB603	1-410-397-21	FERRITE 1.1UH	
FB604	1-410-397-21	FERRITE 1.1UH	
FB901	1-410-397-21	FERRITE 1.1UH	

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REF.NO.	PART NO.	DESCRIPTION	REMARK
		<IC>	
IC001	8-759-583-21	IC MB90F553APF-G-N11	
IC002	8-759-442-20	IC 24LC21AT/SN	
IC004	8-759-527-77	IC M24C16-MN6T	
IC005	8-759-162-80	IC MM1170BFB	
IC006	8-759-470-65	IC PQ05RD1B	
IC007	8-752-078-46	IC CXA2043Q	
IC009	8-759-925-74	IC SN74HC04ANS	
IC010	8-752-083-83	IC CXA2044M-T6	
IC011	8-759-701-59	IC NJM78M09FA	
IC013	8-759-269-09	IC SN74HCT04ANS	
IC501	8-759-100-96	IC UPC4558G2	
IC502	8-759-803-42	IC LA6500-FA	
IC602	8-759-470-64	IC TOP223Y-BB	
IC603	8-749-013-78	IC MCR5102	
IC604	8-749-013-03	IC DM-60	
IC606	8-759-482-62	IC MC33262P	
IC607	8-759-140-85	IC UPC1093J	
IC701	8-759-822-38	IC LA6510	
IC702	8-759-822-38	IC LA6510	
IC703	8-759-803-42	IC LA6500-FA	
IC901	8-759-467-70	IC BA9756FS-E2	
IC1501	8-759-803-42	IC LA6500-FA	
IC1502	8-759-822-38	IC LA6510	
IC1504	8-759-444-82	IC LA7841L	
IC1505	8-759-575-45	IC CA0005AM-TP	
IC1506	8-759-100-96	IC UPC4558G2	
		<COIL>	
L001	1-412-537-31	INDUCTOR 100UH	
L002	1-412-549-11	INDUCTOR 1MMH	
L003	1-410-521-11	INDUCTOR 100UH	
L501	1-412-537-31	INDUCTOR 100UH	
L502	1-406-675-11	INDUCTOR 4.7MMH	
L504	1-406-675-11	INDUCTOR 4.7MMH	
L505	1-416-956-11	COIL, HORIZONTAL LINEARITY	
L506	1-412-529-11	INDUCTOR 22UH	
L507	1-408-615-31	INDUCTOR 100UH	
L508	1-406-675-11	INDUCTOR 4.7MMH	
L602	1-412-537-31	INDUCTOR 100UH	
L603	1-412-529-11	INDUCTOR 22UH	
L604	1-412-529-11	INDUCTOR 22UH	
L605	1-412-529-11	INDUCTOR 22UH	
L606	1-412-529-11	INDUCTOR 22UH	
L607	1-406-975-21	INDUCTOR 47UH	
L901	1-412-537-31	INDUCTOR 100UH	
L902	1-406-660-41	INDUCTOR 15UH	
		<PHOTO COUPLER>	
PH601	8-749-010-64	PHOTO COUPLER PC123F2	
PH602	8-749-010-64	PHOTO COUPLER PC123F2	
PH603	8-749-010-64	PHOTO COUPLER PC123F2	

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<IC LINK>	
PS501	⚠ 1-533-592-31	LINK, IC (1.5A/90V AC,60V DC)	
PS601	⚠ 1-533-593-31	LINK, IC (2A/90V AC,60V DC)	
PS901	⚠ 1-533-592-31	LINK, IC (1.5A/90V AC,60V DC)	
		<TRANSISTOR>	
Q002	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q006	8-729-216-22	TRANSISTOR 2SA1162-G	
Q008	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q009	8-729-216-22	TRANSISTOR 2SA1162-G	
Q503	8-729-216-22	TRANSISTOR 2SA1162-G	
Q504	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q505	8-729-216-22	TRANSISTOR 2SA1162-G	
Q507	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q509	8-729-901-97	TRANSISTOR 2SA1036K-Q	
Q510	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q511	8-729-031-89	TRANSISTOR 2SC3941A-Q(TA)	
Q512	8-729-807-12	TRANSISTOR 2SD1802-S	
Q514	8-729-035-54	TRANSISTOR 2SJ449	
Q516	8-729-800-32	TRANSISTOR 2SC2362K-G	
Q517	8-729-140-50	TRANSISTOR 2SC3209LK	
Q518	8-729-047-66	TRANSISTOR 2SK3157-01	
Q519	8-729-047-39	TRANSISTOR 2SC5445(LBSONY)	
Q520	8-729-047-66	TRANSISTOR 2SK3157-01	
Q522	8-729-047-72	TRANSISTOR 2SK3155-01	
Q523	8-729-047-72	TRANSISTOR 2SK3155-01	
Q524	8-729-047-72	TRANSISTOR 2SK3155-01	
Q525	8-729-216-22	TRANSISTOR 2SA1162-G	
Q526	8-729-901-00	TRANSISTOR DTC124EK	
Q528	8-729-204-91	TRANSISTOR 2SA1049-GR	
Q529	8-729-178-43	TRANSISTOR 2SC2784-E	
Q530	8-729-207-89	TRANSISTOR 2SA1358-Y	
Q531	8-729-207-82	TRANSISTOR 2SC3421-Y	
Q532	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q533	8-729-901-00	TRANSISTOR DTC124EK	
Q535	8-729-047-66	TRANSISTOR 2SK3157-01	
Q537	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q538	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q601	8-729-033-25	TRANSISTOR DTC114GKA	
Q602	8-729-029-47	TRANSISTOR DTA143ESA-TP	
Q603	8-729-033-25	TRANSISTOR DTC114GKA	
Q604	8-729-033-26	TRANSISTOR DTA114GKAT146	
Q605	8-729-041-65	TRANSISTOR 2SK2195F04	
Q606	8-729-029-47	TRANSISTOR DTA143ESA-TP	
Q607	8-729-119-78	TRANSISTOR 2SC2785-HFE	
Q608	8-729-033-26	TRANSISTOR DTA114GKAT146	
Q609	8-729-033-25	TRANSISTOR DTC114GKA	
Q610	8-729-029-66	TRANSISTOR DTC114ESA	
Q612	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q901	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q902	8-729-216-22	TRANSISTOR 2SA1162-G	
Q903	8-729-901-97	TRANSISTOR 2SA1036K-Q	
Q904	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q905	8-729-035-54	TRANSISTOR 2SJ449	
Q906	8-729-041-58	TRANSISTOR 2SK2675	

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REF.NO.	PART NO.	DESCRIPTION			REMARK
Q907	8-729-216-22	TRANSISTOR 2SA1162-G			
	<RESISTOR>				
R001	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R003	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R005	1-216-025-91	RES,CHIP	100	5%	1/10W
R006	1-216-085-00	RES,CHIP	33K	5%	1/10W
R007	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R008	1-216-097-91	RES,CHIP	100K	5%	1/10W
R009	1-216-097-91	RES,CHIP	100K	5%	1/10W
R011	1-216-097-91	RES,CHIP	100K	5%	1/10W
R012	1-216-097-91	RES,CHIP	100K	5%	1/10W
R013	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R015	1-216-017-91	RES,CHIP	47	5%	1/10W
R016	1-216-085-00	RES,CHIP	33K	5%	1/10W
R017	1-216-097-91	RES,CHIP	100K	5%	1/10W
R018	1-216-017-91	RES,CHIP	47	5%	1/10W
R019	1-216-125-00	RES,CHIP	1.5M	5%	1/10W
R020	1-216-073-00	RES,CHIP	10K	5%	1/10W
R023	1-216-025-91	RES,CHIP	100	5%	1/10W
R024	1-216-049-91	RES,CHIP	1K	5%	1/10W
R025	1-216-049-91	RES,CHIP	1K	5%	1/10W
R026	1-216-047-91	RES,CHIP	820	5%	1/10W
R027	1-216-049-91	RES,CHIP	1K	5%	1/10W
R028	1-216-073-00	RES,CHIP	10K	5%	1/10W
R029	1-216-049-91	RES,CHIP	1K	5%	1/10W
R030	1-216-049-91	RES,CHIP	1K	5%	1/10W
R031	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R032	1-216-049-91	RES,CHIP	1K	5%	1/10W
R034	1-216-049-91	RES,CHIP	1K	5%	1/10W
R035	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R036	1-216-073-00	RES,CHIP	10K	5%	1/10W
R037	1-216-049-91	RES,CHIP	1K	5%	1/10W
R038	1-216-295-91	SHORT	0		
R039	1-216-073-00	RES,CHIP	10K	5%	1/10W
R040	1-216-049-91	RES,CHIP	1K	5%	1/10W
R041	1-216-049-91	RES,CHIP	1K	5%	1/10W
R042	1-216-049-91	RES,CHIP	1K	5%	1/10W
R044	1-216-049-91	RES,CHIP	1K	5%	1/10W
R046	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R048	1-216-073-00	RES,CHIP	10K	5%	1/10W
R049	1-216-073-00	RES,CHIP	10K	5%	1/10W
R050	1-216-041-00	RES,CHIP	470	5%	1/10W
R051	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R052	1-216-025-91	RES,CHIP	100	5%	1/10W
R053	1-216-097-91	RES,CHIP	100K	5%	1/10W
R055	1-216-077-00	RES,CHIP	15K	5%	1/10W
R056	1-216-017-91	RES,CHIP	47	5%	1/10W
R057	1-216-073-00	RES,CHIP	10K	5%	1/10W
R058	1-216-049-91	RES,CHIP	1K	5%	1/10W
R059	1-216-295-91	SHORT	0		
R060	1-216-041-00	RES,CHIP	470	5%	1/10W
R061	1-216-073-00	RES,CHIP	10K	5%	1/10W
R062	1-216-025-91	RES,CHIP	100	5%	1/10W
R063	1-216-025-91	RES,CHIP	100	5%	1/10W
R064	1-216-017-91	RES,CHIP	47	5%	1/10W
R065	1-216-105-91	RES,CHIP	220K	5%	1/10W
R066	1-216-073-00	RES,CHIP	10K	5%	1/10W
R067	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R068	1-216-073-00	RES,CHIP	10K	5%	1/10W
R069	1-216-049-91	RES,CHIP	1K	5%	1/10W
R070	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R071	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R072	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R073	1-216-073-00	RES,CHIP	10K	5%	1/10W
R074	1-216-049-91	RES,CHIP	1K	5%	1/10W
R075	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R076	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R077	1-216-049-91	RES,CHIP	1K	5%	1/10W
R078	1-216-073-00	RES,CHIP	10K	5%	1/10W
R079	1-216-049-91	RES,CHIP	1K	5%	1/10W
R080	1-216-049-91	RES,CHIP	1K	5%	1/10W
R081	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R082	1-216-073-00	RES,CHIP	10K	5%	1/10W
R083	1-216-077-00	RES,CHIP	15K	5%	1/10W
R084	1-216-073-00	RES,CHIP	10K	5%	1/10W
R085	1-216-049-91	RES,CHIP	1K	5%	1/10W
R086	1-216-073-00	RES,CHIP	10K	5%	1/10W
R087	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R088	1-216-089-91	RES,CHIP	47K	5%	1/10W
R089	1-216-025-91	RES,CHIP	100	5%	1/10W
R090	1-216-025-91	RES,CHIP	100	5%	1/10W
R091	1-216-025-91	RES,CHIP	100	5%	1/10W
R094	1-216-025-91	RES,CHIP	100	5%	1/10W
R096	1-216-025-91	RES,CHIP	100	5%	1/10W
R097	1-216-039-00	RES,CHIP	390	5%	1/10W
R098	1-216-671-11	METAL CHIP	6.8K	0.50%	1/10W
R501	1-216-097-91	RES,CHIP	100K	5%	1/10W
R502	1-216-049-91	RES,CHIP	1K	5%	1/10W
R503	1-216-097-91	RES,CHIP	100K	5%	1/10W
R504	1-216-073-00	RES,CHIP	10K	5%	1/10W
R505	1-216-081-00	RES,CHIP	22K	5%	1/10W
R506	1-216-033-00	RES,CHIP	220	5%	1/10W
R507	1-216-093-91	RES,CHIP	68K	5%	1/10W
R508	1-216-073-00	RES,CHIP	10K	5%	1/10W
R509	1-249-421-11	CARBON	2.2K	5%	1/4W
R510	1-216-033-00	RES,CHIP	220	5%	1/10W
R511	1-216-025-91	RES,CHIP	100	5%	1/10W
R512	1-219-755-11	CARBON	10M	5%	1/2W
R513	1-216-097-91	RES,CHIP	100K	5%	1/10W
R514	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R515	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R516	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R517	1-249-397-11	CARBON	22	5%	1/4W F
R518	1-216-073-00	RES,CHIP	10K	5%	1/10W
R519	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R520	1-216-097-91	RES,CHIP	100K	5%	1/10W
R521	1-219-510-11	CARBON	470K	5%	1/2W
R522	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R523	1-216-097-91	RES,CHIP	100K	5%	1/10W
R524	1-216-641-11	METAL CHIP	390	0.50%	1/10W

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R525	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R526	1-260-296-11	CARBON	2.2	5%	1/2W
R527	1-215-860-11	METAL OXIDE	33	5%	1W F
R528	1-216-676-11	METAL CHIP	11K	0.50%	1/10W
R529	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R530	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R531	1-216-081-00	RES,CHIP	22K	5%	1/10W
R532	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R533	1-216-073-00	RES,CHIP	10K	5%	1/10W
R534	1-216-683-11	METAL CHIP	22K	0.50%	1/10W
R535	1-216-049-91	RES,CHIP	1K	5%	1/10W
R536	1-216-449-11	METAL OXIDE	56	5%	2W F
R537	1-216-079-00	RES,CHIP	18K	5%	1/10W
R538	1-216-073-00	RES,CHIP	10K	5%	1/10W
R539	1-219-677-11	METAL	1.8	5%	10W
R540	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R541	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R542	1-216-049-91	RES,CHIP	1K	5%	1/10W
R543	1-249-429-11	CARBON	10K	5%	1/4W
R544	1-216-423-11	METAL OXIDE	27	5%	1W F
R545	1-216-049-91	RES,CHIP	1K	5%	1/10W
R546	1-216-049-91	RES,CHIP	1K	5%	1/10W
R547	1-215-381-00	METAL	22	1%	1/4W
R548	1-216-674-11	METAL CHIP	9.1K	0.50%	1/10W
R549	1-216-033-00	RES,CHIP	220	5%	1/10W
R550	1-216-073-00	RES,CHIP	10K	5%	1/10W
R551	1-216-049-91	RES,CHIP	1K	5%	1/10W
R553	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R554	1-249-429-11	CARBON	10K	5%	1/4W F
R555	1-216-049-91	RES,CHIP	1K	5%	1/10W
R557	1-216-385-11	METAL OXIDE	0.47	5%	3W F
R558	1-216-097-91	RES,CHIP	100K	5%	1/10W
R559	1-216-049-91	RES,CHIP	1K	5%	1/10W
R560	1-260-096-11	CARBON	560	5%	1/2W
R561	1-249-413-11	CARBON	470	5%	1/4W F
R562	1-216-073-00	RES,CHIP	10K	5%	1/10W
R563	1-215-886-11	METAL OXIDE	100	5%	2W F
R565	1-216-079-00	RES,CHIP	18K	5%	1/10W
R567	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R568	1-214-840-00	METAL	100	1%	1/2W
R569	1-247-895-91	CARBON	470K	5%	1/4W
R571	1-216-081-00	RES,CHIP	22K	5%	1/10W
R572	1-247-895-91	CARBON	470K	5%	1/4W
R573	1-249-437-11	CARBON	47K	5%	1/4W
R574	1-249-437-11	CARBON	47K	5%	1/4W
R575	1-249-437-11	CARBON	47K	5%	1/4W
R576	1-249-437-11	CARBON	47K	5%	1/4W
R577	1-249-389-11	CARBON	4.7	5%	1/4W F
R578	1-216-051-00	RES,CHIP	1.2K	5%	1/10W
R579	1-260-316-51	CARBON	100	5%	1/2W
R580	1-260-112-81	CARBON	12K	5%	1/2W
R582	1-249-413-11	CARBON	470	5%	1/4W F
R583	1-249-389-11	CARBON	4.7	5%	1/4W F
R584	1-249-389-11	CARBON	4.7	5%	1/4W F
R585	1-216-121-91	RES,CHIP	1M	5%	1/10W
R587	1-216-357-00	METAL OXIDE	4.7	5%	1W F
R588	1-216-073-00	RES,CHIP	10K	5%	1/10W
R589	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R590	1-247-815-91	CARBON	220	5%	1/4W
R591	1-249-393-11	CARBON	10	5%	1/4W F
R592	1-216-341-11	METAL OXIDE	0.22	5%	1W F
R594	1-216-691-11	METAL CHIP	47K	0.50%	1/10W
R595	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R596	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R597	1-216-643-11	METAL CHIP	470	0.50%	1/10W
R598	1-216-101-00	RES,CHIP	150K	5%	1/10W
R599	1-216-081-00	RES,CHIP	22K	5%	1/10W
R601	⚠ 1-220-825-91	CARBON	330K	5%	1/2W
R602	1-216-073-00	RES,CHIP	10K	5%	1/10W
R603	1-260-085-11	CARBON	68	5%	1/2W
R604	1-216-654-11	METAL CHIP	1.3K	0.50%	1/10W
R605	1-202-933-61	FUSIBLE	0.1	10%	1/2W F
R606	1-216-073-00	RES,CHIP	10K	5%	1/10W
R607	1-216-073-00	RES,CHIP	10K	5%	1/10W
R608	1-216-342-11	METAL OXIDE	0.27	5%	1W F
R609	1-260-085-11	CARBON	68	5%	1/2W
R610	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R611	1-249-387-11	CARBON	3.3	5%	1/4W F
R612	1-216-025-91	RES,CHIP	100	5%	1/10W
R614	1-215-861-00	METAL OXIDE	47	5%	1W F
R615	1-216-041-00	RES,CHIP	470	5%	1/10W
R616	1-216-097-91	RES,CHIP	100K	5%	1/10W
R617	1-216-049-91	RES,CHIP	1K	5%	1/10W
R621	1-216-689-11	METAL CHIP	39K	0.50%	1/10W
R622	1-215-483-00	METAL	390K	1%	1/4W
R623	1-247-815-91	CARBON	220	5%	1/4W
R624	1-216-049-91	RES,CHIP	1K	5%	1/10W
R625	1-249-413-11	CARBON	470	5%	1/4W F
R629	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R630	1-215-484-00	METAL	430K	1%	1/4W
R631	1-215-484-00	METAL	430K	1%	1/4W
R633	1-249-389-11	CARBON	4.7	5%	1/4W F
R634	1-216-073-00	RES,CHIP	10K	5%	1/10W
R635	1-215-880-00	METAL OXIDE	10	5%	2W F
R636	1-215-484-00	METAL	430K	1%	1/4W
R638	1-216-025-91	RES,CHIP	100	5%	1/10W
R639	1-216-081-00	RES,CHIP	22K	5%	1/10W
R640	1-216-081-00	RES,CHIP	22K	5%	1/10W
R641	1-215-481-00	METAL	330K	1%	1/4W
R642	1-215-485-00	METAL	470K	1%	1/4W
R643	1-215-485-00	METAL	470K	1%	1/4W
R644	1-215-485-00	METAL	470K	1%	1/4W
R645	1-215-481-00	METAL	330K	1%	1/4W
R646	1-216-692-11	METAL CHIP	51K	0.50%	1/10W
R647	1-216-681-11	METAL CHIP	18K	0.50%	1/10W
R648	1-216-673-11	METAL CHIP	8.2K	0.50%	1/10W
R649	1-215-861-00	METAL OXIDE	47	5%	1W F
R653	1-215-485-00	METAL	470K	1%	1/4W
R656	1-218-768-11	METAL CHIP	470K	0.50%	1/10W
R657	1-218-756-11	METAL CHIP	150K	0.50%	1/10W
R658	1-216-627-11	METAL CHIP	100	0.50%	1/10W
R660	1-216-057-00	RES,CHIP	2.2K	5%	1/10W

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R663	1-216-097-91	RES,CHIP	100K	5%	1/10W
R664	1-216-364-11	METAL OXIDE	0.39	5%	2W F
R665	1-216-364-11	METAL OXIDE	0.39	5%	2W F
R669	1-216-017-91	RES,CHIP	47	5%	1/10W
R670	1-216-009-91	RES,CHIP	22	5%	1/10W
R671	1-216-033-00	RES,CHIP	220	5%	1/10W
R672	1-216-665-11	METAL CHIP	3.9K	0.50%	1/10W
R673	1-216-661-11	METAL CHIP	2.7K	0.50%	1/10W
R674	1-216-113-00	RES,CHIP	470K	5%	1/10W
R675	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R681	1-260-135-11	CARBON	1M	5%	1/2W
R682	1-260-135-11	CARBON	1M	5%	1/2W
R683	1-260-135-11	CARBON	1M	5%	1/2W
R684	1-260-135-11	CARBON	1M	5%	1/2W
R703	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R704	1-216-690-11	METAL CHIP	43K	0.50%	1/10W
R705	1-216-679-11	METAL CHIP	15K	0.50%	1/10W
R710	1-249-377-11	CARBON	0.47	5%	1/4W F
R711	1-249-377-11	CARBON	0.47	5%	1/4W F
R714	1-216-298-00	RES,CHIP	2.2	5%	1/10W
R716	1-216-298-00	RES,CHIP	2.2	5%	1/10W
R718	1-216-298-00	RES,CHIP	2.2	5%	1/10W
R720	1-216-298-00	RES,CHIP	2.2	5%	1/10W
R724	1-249-383-11	CARBON	1.5	5%	1/4W F
R725	1-216-099-00	RES,CHIP	120K	5%	1/10W
R726	1-249-383-11	CARBON	1.5	5%	1/4W F
R727	1-216-099-00	RES,CHIP	120K	5%	1/10W
R728	1-249-383-11	CARBON	1.5	5%	1/4W F
R729	1-216-099-00	RES,CHIP	120K	5%	1/10W
R730	1-249-383-11	CARBON	1.5	5%	1/4W F
R731	1-216-099-00	RES,CHIP	120K	5%	1/10W
R735	1-215-882-00	METAL OXIDE	22	5%	2W F
R737	1-215-882-00	METAL OXIDE	22	5%	2W F
R739	1-215-882-00	METAL OXIDE	22	5%	2W F
R741	1-215-882-00	METAL OXIDE	22	5%	2W F
R742	1-216-081-00	RES,CHIP	22K	5%	1/10W
R743	1-216-081-00	RES,CHIP	22K	5%	1/10W
R744	1-216-081-00	RES,CHIP	22K	5%	1/10W
R745	1-216-081-00	RES,CHIP	22K	5%	1/10W
R746	1-216-081-00	RES,CHIP	22K	5%	1/10W
R747	1-216-099-00	RES,CHIP	120K	5%	1/10W
R748	1-249-383-11	CARBON	1.5	5%	1/4W F
R749	1-215-882-00	METAL OXIDE	22	5%	2W F
R901	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R902	1-216-097-91	RES,CHIP	100K	5%	1/10W
R903	1-218-762-11	METAL CHIP	270K	0.50%	1/10W
R904	1-216-073-00	RES,CHIP	10K	5%	1/10W
R905	1-216-061-00	RES,CHIP	3.3K	5%	1/10W
R906	1-216-109-00	RES,CHIP	330K	5%	1/10W
R907	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R908	1-249-397-11	CARBON	22	5%	1/4W F
R909	1-216-073-00	RES,CHIP	10K	5%	1/10W
R910	1-216-357-00	METAL OXIDE	4.7	5%	1W F
R911	1-216-081-00	RES,CHIP	22K	5%	1/10W
R912	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R913	1-216-025-91	RES,CHIP	100	5%	1/10W
R914	1-216-073-00	RES,CHIP	10K	5%	1/10W
R915	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R916	1-216-033-00	RES,CHIP	220	5%	1/10W
R917	1-249-397-11	CARBON	22	5%	1/4W F
R918	1-216-033-00	RES,CHIP	220	5%	1/10W
R919	1-219-727-11	METAL	68	5%	10W
R920	1-249-389-11	CARBON	4.7	5%	1/4W F
R921	1-219-748-11	CARBON	4.7K	5%	1/2W
R922	1-216-675-11	METAL CHIP	10K	0.50%	1/10W
R923	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R924	1-220-825-11	CARBON	330K	5%	1/2W
R925	1-216-073-00	RES,CHIP	10K	5%	1/10W
R926	1-219-748-11	CARBON	4.7K	5%	1/2W
R927	1-216-049-91	RES,CHIP	1K	5%	1/10W
R928	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R930	1-216-089-91	RES,CHIP	47K	5%	1/10W
R932	1-216-085-00	RES,CHIP	33K	5%	1/10W
R933	1-216-091-00	RES,CHIP	56K	5%	1/10W
R934	1-216-669-11	METAL CHIP	5.6K	0.50%	1/10W
R935	1-216-089-91	RES,CHIP	47K	5%	1/10W
R936	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R937	1-216-025-91	RES,CHIP	100	5%	1/10W
R939	1-216-033-00	RES,CHIP	220	5%	1/10W
R940	1-216-073-00	RES,CHIP	10K	5%	1/10W
R941	1-216-025-91	RES,CHIP	100	5%	1/10W
R942	1-219-748-11	CARBON	4.7K	5%	1/2W
R943	1-216-073-00	RES,CHIP	10K	5%	1/10W
R944	1-216-001-00	RES,CHIP	10	5%	1/10W
R945	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1001	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1002	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1003	1-216-093-91	RES,CHIP	68K	5%	1/10W
R1004	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1005	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1007	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1008	1-216-121-91	RES,CHIP	1M	5%	1/10W
R1009	1-216-121-91	RES,CHIP	1M	5%	1/10W
R1010	1-216-025-91	RES,CHIP	100	5%	1/10W
R1011	1-216-025-91	RES,CHIP	100	5%	1/10W
R1012	1-216-025-91	RES,CHIP	100	5%	1/10W
R1013	1-216-025-91	RES,CHIP	100	5%	1/10W
R1014	1-216-025-91	RES,CHIP	100	5%	1/10W
R1015	1-216-025-91	RES,CHIP	100	5%	1/10W
R1016	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1017	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1021	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1022	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1024	1-216-025-91	RES,CHIP	100	5%	1/10W
R1025	1-216-025-91	RES,CHIP	100	5%	1/10W
R1028	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1029	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1030	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1031	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1032	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1035	1-216-073-00	RES,CHIP	10K	5%	1/10W

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

The components identified by ⋈ in this manual have been carefully factory-selected for each set in order to satisfy regulations regarding X-ray radiation. Should replacement be required, replace only with the value originally used.

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REF.NO.	PART NO.	DESCRIPTION			REMARK
R1037	1-249-389-11	CARBON	4.7	5%	1/4W F
R1038	1-216-065-91	RES,CHIP	4.7K	5%	1/10W
R1039	1-216-041-00	RES,CHIP	470	5%	1/10W
R1040	1-216-025-91	RES,CHIP	100	5%	1/10W
R1041	1-216-025-91	RES,CHIP	100	5%	1/10W
R1043	1-216-025-91	RES,CHIP	100	5%	1/10W
R1044	1-216-025-91	RES,CHIP	100	5%	1/10W
R1045	1-216-025-91	RES,CHIP	100	5%	1/10W
R1050	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1051	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1052	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1057	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1059	1-216-025-91	RES,CHIP	100	5%	1/10W
R1060	1-216-025-91	RES,CHIP	100	5%	1/10W
R1064	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1073	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1501	1-216-077-00	RES,CHIP	15K	5%	1/10W
R1502	1-216-075-00	RES,CHIP	12K	5%	1/10W
R1503	1-216-075-00	RES,CHIP	12K	5%	1/10W
R1504	1-216-689-11	RES,CHIP	39K	5%	1/10W
R1505	1-249-383-11	CARBON	1.5	5%	1/4W F
R1506	1-216-473-11	METAL OXIDE	56	5%	3W F
R1507	1-249-383-11	CARBON	1.5	5%	1/4W F
R1508	1-249-417-11	CARBON	1K	5%	1/4W
R1509	1-216-298-00	RES,CHIP	2.2	5%	1/10W
R1510	1-249-383-11	CARBON	1.5	5%	1/4W F
R1511	1-216-077-00	RES,CHIP	15K	5%	1/10W
R1512	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1513	1-216-298-00	RES,CHIP	2.2	5%	1/10W
R1514	1-249-383-11	CARBON	1.5	5%	1/4W F
R1515	1-216-089-91	RES,CHIP	47K	5%	1/10W
R1516	1-215-885-00	METAL OXIDE	68	5%	2W F
R1517	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R1518	1-216-077-00	RES,CHIP	15K	5%	1/10W
R1519	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1520	1-216-097-91	RES,CHIP	100K	5%	1/10W
R1521	1-249-383-11	CARBON	1.5	5%	1/4W F
R1522	1-216-085-00	RES,CHIP	33K	5%	1/10W
R1523	1-215-886-11	METAL OXIDE	100	5%	2W F
R1524	1-216-049-91	RES,CHIP	1K	5%	1/10W
R1525	1-216-077-00	RES,CHIP	15K	5%	1/10W
R1526	1-216-659-11	METAL CHIP	2.2K	0.50%	1/10W
R1527	1-216-041-00	RES,CHIP	470	5%	1/10W
R1528	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1529	1-249-417-11	CARBON	1K	5%	1/4W
R1531	1-214-792-00	METAL	1	1%	1/2W
R1532	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1533	1-216-663-11	METAL CHIP	3.3K	0.50%	1/10W
R1534	1-216-397-11	METAL OXIDE	4.7	5%	3W F
R1535	1-216-651-11	METAL CHIP	1K	0.50%	1/10W
R1536	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1537	1-216-687-11	METAL CHIP	33K	0.50%	1/10W
R1538	1-215-866-11	METAL OXIDE	330	5%	1W F
R1539	1-249-383-11	CARBON	1.5	5%	1/4W F
R1540	1-216-397-11	METAL OXIDE	4.7	5%	3W F
R1541	1-214-792-00	METAL	1	1%	1/2W
R1542	1-216-667-11	METAL CHIP	4.7K	0.50%	1/10W
R1543	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1544	1-216-101-00	RES,CHIP	150K	5%	1/10W
R1545	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R1546	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1547	1-216-071-00	RES,CHIP	8.2K	5%	1/10W
R1548	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1549	1-216-105-91	RES,CHIP	220K	5%	1/10W
R1550	1-216-081-00	RES,CHIP	22K	5%	1/10W
R1551	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1552	1-216-073-00	RES,CHIP	10K	5%	1/10W
R1553	1-260-316-51	CARBON	100	5%	1/2W
R1554	1-249-437-11	CARBON	47K	5%	1/4W
R1555	1-216-357-00	METAL OXIDE	4.7	5%	1W F
R1556	1-216-025-91	RES,CHIP	100	5%	1/10W

<VARIABLE RESISTOR>

⋈ RV901	⚠	1-241-767-21	RES, ADJ, CERMET 100K (HV ADJ)		

<RELAY>

RY601	⚠	1-755-268-11	RELAY, AC POWER		
RY602	⚠	1-515-849-11	RELAY		

<SWITCH>

S001		1-572-922-11	SWITCH, SLIDE (OP/ST)		
S601	⚠	1-571-433-31	SWITCH, PUSH (AC POWER)		

<SPARK GAP>

SG601	⚠	1-533-982-21	GAP, SPARK		
SG901		1-519-422-11	GAP, SPARK		
SG902		1-517-499-21	GAP, SPARK		
SG903		1-519-422-11	GAP, SPARK		

<TRANSFORMER>

T501		1-433-628-11	TRANSFORMER, FERRITE (HDT)		
T502		1-431-414-11	TRANSFORMER, FERRITE (DFT)		
T503		1-433-678-11	TRANSFORMER, FERRITE (HOT)		
T504		1-431-443-11	TRANSFORMER, FERRITE (HST)		
T505		1-429-301-11	TRANSFORMER, FERRITE (HCT)		
T507		1-433-676-11	TRANSFORMER, FILTER (LCT)		
T601	⚠	1-429-180-11	TRANSFORMER, LINE FILTER		
T602		1-431-678-21	TRANSFORMER, FERRITE (PFT)		
T603		1-433-662-11	TRANSFORMER, CONVERTER (SRT)		
T604	⚠	1-433-661-11	TRANSFORMER, CONVERTER (PIT)		
T901	⚠	X-4035-425-1	TRANSFORMER ASSY, FLYBACK (NX-4500//J1E4)		
T902		1-411-567-31	INDUCTOR	500UH	

<THERMISTOR>

TH501		1-807-796-11	THERMISTOR		

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Les composants identifiés per un tramé et une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une piéce portant le numéro spécifié.

The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

REF.NO.	PART NO.	DESCRIPTION			REMARK
TH601	⚠1-809-260-11	THERMISTOR, POWER			
TH1501	1-807-970-11	THERMISTOR			
		<THERMISTOR>			
THP601	⚠1-809-827-11	THERMISTOR, POSITIVE			
		<VARISTOR>			
VDR601	⚠1-810-622-21	VARISTOR			
VDR602	⚠1-801-268-51	VARISTOR TNR14V471K660			
		<CRYSTAL>			
X001	1-567-781-61	VIBRATOR, CRYSTAL (4MHz)			
**********					
	*8-933-354-00	H BOARD,COMPLETE			
		**********			
		<CAPACITOR>			
C805	1-124-589-11	ELECT	47MF	20%	16V
C811	1-124-589-11	ELECT	47MF	20%	16V
		<CONNECTOR>			
CN801	*1-564-525-11	PLUG, CONNECTOR 10P			
		<DIODE>			
D810	8-719-064-11	DIODE SPR-325MVW			
D812	8-719-060-26	DIODE SLR-325YCT31			
D813	8-719-060-26	DIODE SLR-325YCT31			
		<TRANSISTOR>			
Q801	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q802	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q803	8-729-119-78	TRANSISTOR 2SC2785-HFE			
Q804	8-729-119-78	TRANSISTOR 2SC2785-HFE			
		<RESISTOR>			
R801	1-215-429-00	METAL	2.2K	1%	1/4W
R802	1-215-437-00	METAL	4.7K	1%	1/4W
R803	1-215-433-00	METAL	3.3K	1%	1/4W
R804	1-215-421-00	METAL	1K	1%	1/4W
R805	1-215-417-00	METAL	680	1%	1/4W
R806	1-215-413-00	METAL	470	1%	1/4W
R807	1-215-433-00	METAL	3.3K	1%	1/4W
R808	1-215-409-00	METAL	330	1%	1/4W
R809	1-215-409-00	METAL	330	1%	1/4W
R810	1-215-413-00	METAL	470	1%	1/4W
R812	1-247-815-91	CARBON	220	5%	1/4W
R813	1-247-815-91	CARBON	220	5%	1/4W
R814	1-249-429-11	CARBON	10K	5%	1/4W
R815	1-249-429-11	CARBON	10K	5%	1/4W
R816	1-247-863-91	CARBON	22K	5%	1/4W
R817	1-247-863-91	CARBON	22K	5%	1/4W
R818	1-215-445-00	METAL	10K	1%	1/4W
R819	1-249-441-11	CARBON	100K	5%	1/4W
R824	1-247-863-91	CARBON	22K	5%	1/4W
R825	1-247-863-91	CARBON	22K	5%	1/4W
R826	1-249-412-11	CARBON	390	5%	1/4W
R827	1-249-406-11	CARBON	120	5%	1/4W
R828	1-215-421-00	METAL	1K	1%	1/4W
		<SWITCH>			
S801	1-771-464-11	SWITCH, STICK (CONT +/-, BRT +/-)			
S807	1-762-196-21	SWITCH, TACT (INPUT)			
S808	1-762-196-21	SWITCH, TACT (ASC)			
S809	1-762-196-21	SWITCH, TACT (RESET)			
		<THERMISTOR>			
TH801	1-807-796-11	THERMISTOR			
**********					
	*8-933-355-00	US BOARD,COMPLETE			
		**********			
		<CAPACITOR>			
C2601	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C2602	1-104-664-11	ELECT	47MF	20%	25V
C2603	1-104-664-11	ELECT	47MF	20%	25V
C2605	1-104-664-11	ELECT	47MF	20%	25V
C2606	1-104-664-11	ELECT	47MF	20%	25V
C2607	1-126-934-11	ELECT	220MF	20%	10V
C2608	1-126-934-11	ELECT	220MF	20%	10V
C2609	1-126-934-11	ELECT	220MF	20%	10V
C2610	1-126-934-11	ELECT	220MF	20%	10V
C2612	1-104-664-11	ELECT	47MF	20%	25V
C2617	1-163-021-91	CERAMIC CHIP	0.01MF	10%	50V
C2901	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V
C2902	1-104-664-11	ELECT	47MF	20%	25V
C2903	1-104-664-11	ELECT	47MF	20%	25V
C2905	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C2909	1-163-243-11	CERAMIC CHIP	47PF	5%	50V
C2910	1-163-275-11	CERAMIC CHIP	0.001MF	5%	50V
C2911	1-104-664-11	ELECT	47MF	20%	25V
C2912	1-163-229-11	CERAMIC CHIP	12PF	5%	50V
C2914	1-164-489-11	CERAMIC CHIP	0.22MF	10%	16V
C2916	1-164-004-11	CERAMIC CHIP	0.1MF	10%	25V

REF.NO.	PART NO.	DESCRIPTION	REMARK
		<CONNECTOR>	
CN2601	1-564-524-11	PLUG, CONNECTOR 9P	
CN2603	1-695-915-11	TAB (CONTACT)	
CN2901	1-779-677-11	CONNECTOR, USB (B)	
CN2902	1-779-642-12	CONNECTOR, USB (A)	
CN2903	1-779-642-12	CONNECTOR, USB (A)	
CN2904	1-779-642-12	CONNECTOR, USB (A)	
CN2905	1-779-642-12	CONNECTOR, USB (A)	
CN2906 *	1-508-879-11	BASE POST	
		<DIODE>	
D2601	8-719-911-19	DIODE 1SS119-25	
D2602	8-719-911-19	DIODE 1SS119-25	
D2603	8-719-911-19	DIODE 1SS119-25	
D2604	8-719-911-19	DIODE 1SS119-25	
D2605	8-719-988-61	DIODE 1SS355TE-17	
D2606	8-719-988-61	DIODE 1SS355TE-17	
D2607	8-719-988-61	DIODE 1SS355TE-17	
D2608	8-719-988-61	DIODE 1SS355TE-17	
D2609	8-719-158-15	ZENER DIODE RD5.6SB	
D2610	8-719-988-61	DIODE 1SS355TE-17	
D2902	8-719-422-12	DIODE MA8039	
D2903	8-719-422-12	DIODE MA8039	
D2904	8-719-158-15	ZENER DIODE RD5.6SB	
D2905	8-719-158-15	ZENER DIODE RD5.6SB	
D2906	8-719-158-15	ZENER DIODE RD5.6SB	
D2907	8-719-158-15	ZENER DIODE RD5.6SB	
D2908	8-719-422-12	DIODE MA8039	
D2909	8-719-422-12	DIODE MA8039	
D2910	8-719-422-12	DIODE MA8039	
D2911	8-719-422-12	DIODE MA8039	
D2912	8-719-422-12	DIODE MA8039	
D2913	8-719-422-12	DIODE MA8039	
D2914	8-719-422-12	DIODE MA8039	
D2915	8-719-422-12	DIODE MA8039	
		<FERRITE BEAD>	
FB2601	1-412-911-11	FERRITE 1.1UH	
FB2901	1-412-911-11	FERRITE 1.1UH	
FB2903	1-412-911-11	FERRITE 1.1UH	
FB2904	1-412-911-11	FERRITE 1.1UH	
FB2905	1-412-911-11	FERRITE 1.1UH	
FB2906	1-412-911-11	FERRITE 1.1UH	
FB2911	1-412-911-11	FERRITE 1.1UH	
FB2912	1-216-295-91	SHORT 0	
FB2913	1-216-295-91	SHORT 0	
FB2914	1-216-295-91	SHORT 0	
FB2915	1-216-295-91	SHORT 0	
FB2916	1-216-295-91	SHORT 0	
FB2917	1-216-295-91	SHORT 0	
FB2918	1-216-295-91	SHORT 0	
FB2919	1-216-295-91	SHORT 0	
FB2924	1-216-295-91	SHORT 0	
FB2925	1-216-295-91	SHORT 0	
FB2932	1-412-911-11	FERRITE 1.1UH	
FB2933	1-412-911-11	FERRITE 1.1UH	
FB2934	1-412-911-11	FERRITE 1.1UH	
FB2935	1-412-911-11	FERRITE 1.1UH	
		<IC>	
IC2601	8-759-521-90	IC PQ05DZ5U	
IC2602	8-759-157-22	IC PQ05TZ1U	
IC2603	8-759-157-22	IC PQ05TZ1U	
IC2604	8-759-157-22	IC PQ05TZ1U	
IC2605	8-759-157-22	IC PQ05TZ1U	
IC2606	8-759-140-85	IC UPC1093J	
IC2901	8-759-526-84	IC TUSB2040N	
IC2902	8-759-165-87	IC PST600J-T	
		<CHIP CONDUCTOR>	
JR2601	1-216-295-91	SHORT 0	
JR2602	1-216-295-91	SHORT 0	
JR2603	1-216-295-91	SHORT 0	
JR2604	1-216-295-91	SHORT 0	
		<COIL>	
L2901	1-412-003-41	INDUCTOR CHIP 5.6UH	
		<TRANSISTOR>	
Q2601	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q2602	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q2603	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q2604	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q2605	8-729-028-74	TRANSISTOR DTA114TUA-T106	
Q2606	8-729-029-06	TRANSISTOR DTC124EUA-T106	
Q2607	8-729-028-83	TRANSISTOR DTA124EUA-T106	
		<RESISTOR>	
R2601	1-216-057-00	RES,CHIP 2.2K 5% 1/10W	
R2603	1-216-346-00	METAL OXIDE 0.56 5% 1W F	
R2604	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R2606	1-216-346-00	METAL OXIDE 0.56 5% 1W F	
R2607	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R2609	1-216-346-00	METAL OXIDE 0.56 5% 1W F	
R2610	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R2612	1-216-346-00	METAL OXIDE 0.56 5% 1W F	
R2613	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R2614	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R2615	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R2616	1-216-073-00	RES,CHIP 10K 5% 1/10W	
R2617	1-215-882-00	METAL OXIDE 22 5% 2W F	
R2618	1-216-663-11	METAL CHIP 3.3K 0.50% 1/10W	
R2619	1-216-675-11	METAL CHIP 10K 0.50% 1/10W	
R2620	1-216-049-91	RES,CHIP 1K 5% 1/10W	
R2621	1-216-049-91	RES,CHIP 1K 5% 1/10W	

US

REF.NO.	PART NO.	DESCRIPTION			REMARK
R2622	1-216-129-00	RES,CHIP	2.2M	5%	1/10W
R2901	1-216-017-91	RES,CHIP	47	5%	1/10W
R2902	1-216-057-00	RES,CHIP	2.2K	5%	1/10W
R2903	1-216-067-00	RES,CHIP	5.6K	5%	1/10W
R2915	1-216-053-00	RES,CHIP	1.5K	5%	1/10W
R2916	1-216-077-00	RES,CHIP	15K	5%	1/10W
R2919	1-216-077-00	RES,CHIP	15K	5%	1/10W
R2920	1-216-077-00	RES,CHIP	15K	5%	1/10W
R2923	1-216-077-00	RES,CHIP	15K	5%	1/10W
R2924	1-216-077-00	RES,CHIP	15K	5%	1/10W
R2925	1-216-077-00	RES,CHIP	15K	5%	1/10W
R2926	1-216-077-00	RES,CHIP	15K	5%	1/10W
R2927	1-216-017-91	RES,CHIP	47	5%	1/10W
R2928	1-216-017-91	RES,CHIP	47	5%	1/10W
R2930	1-216-009-91	RES,CHIP	22	5%	1/10W
R2931	1-216-009-91	RES,CHIP	22	5%	1/10W
R2932	1-216-077-00	RES,CHIP	15K	5%	1/10W
R2933	1-216-017-91	RES,CHIP	47	5%	1/10W
R2934	1-216-017-91	RES,CHIP	47	5%	1/10W
R2935	1-216-017-91	RES,CHIP	47	5%	1/10W
R2941	1-216-017-91	RES,CHIP	47	5%	1/10W
R2942	1-216-017-91	RES,CHIP	47	5%	1/10W
	<TRANSFORMER>				
T2601	1-416-762-11	INDUCTOR	10UH		
	<CRYSTAL>				
X2901	1-767-587-31	VIBRATOR, CRYSTAL (48MHz)			

9-978-636-11 99BL05249-1

English
99BL05249-1
Printed in Japan
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